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DOCUMENTS

Editorial...

Time to See

No one should permit himself to become too preoccupied with life and the ever-present problems of earning a livelihood that no time is set aside for the enjoyment of and education to be derived from nature and the ingredients that make up the world in which we live. If a man has his ears and eyes open he can learn a lot.

For example, we've been watching a busy Kingfisher each early morning since arriving at the lake. On his early morning flight for breakfast he pauses momentarily on our dining raft a few yards offshore.

The fisher reminds us of the Bluejay but he is much more interesting, has good manners and minds his own business which, before breakfast, is strictly the catching of all the small-fry fish imprudent enough to come near the water's surface and thus within reach of Mr. Fisher's long bill.

Invariably the lake surface is smooth as glass of an early morning hour. Even when the cool mists roll carelessly over the water's surface, like soft cotton balls, we observe the fisher flying along with a peculiar uneven rattling wing-beat.

All at once he will stop in mid-air, hover with fast beating wings, plunge into the lake and come up with what must to him be a tasty morsel.

One of the unique things about natural life is that it is always here if we stop for even a moment to observe and enjoy it. The lakes, rivers, trees, mountains and all manner of wildlife of which New Hampshire abounds represent an endowment of incalculable and—if sensibly conserved—inexhaustible wealth.

In virtually every other area of our human existence nothing remains still. Unlike the out-of-doors, which is always there for man to enjoy, his other pleasures require effort and expense, which more often than not sap his strength, health and time so as to render him captive to devices of his own creation.

A man must cultivate his garden or he will have no harvest; he must tend to his business, profession and job or he and his family will be destitute.

If he does not attend to the business of earning money he will not have it; he cannot sit down and wait for it.

But a man can afford to wait for the multitude of pleasure afforded by nature, simply because he does not have long to wait.

—The Bristol Enterprise, Bristol, N. H.

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Photo by Johnny Nicklas

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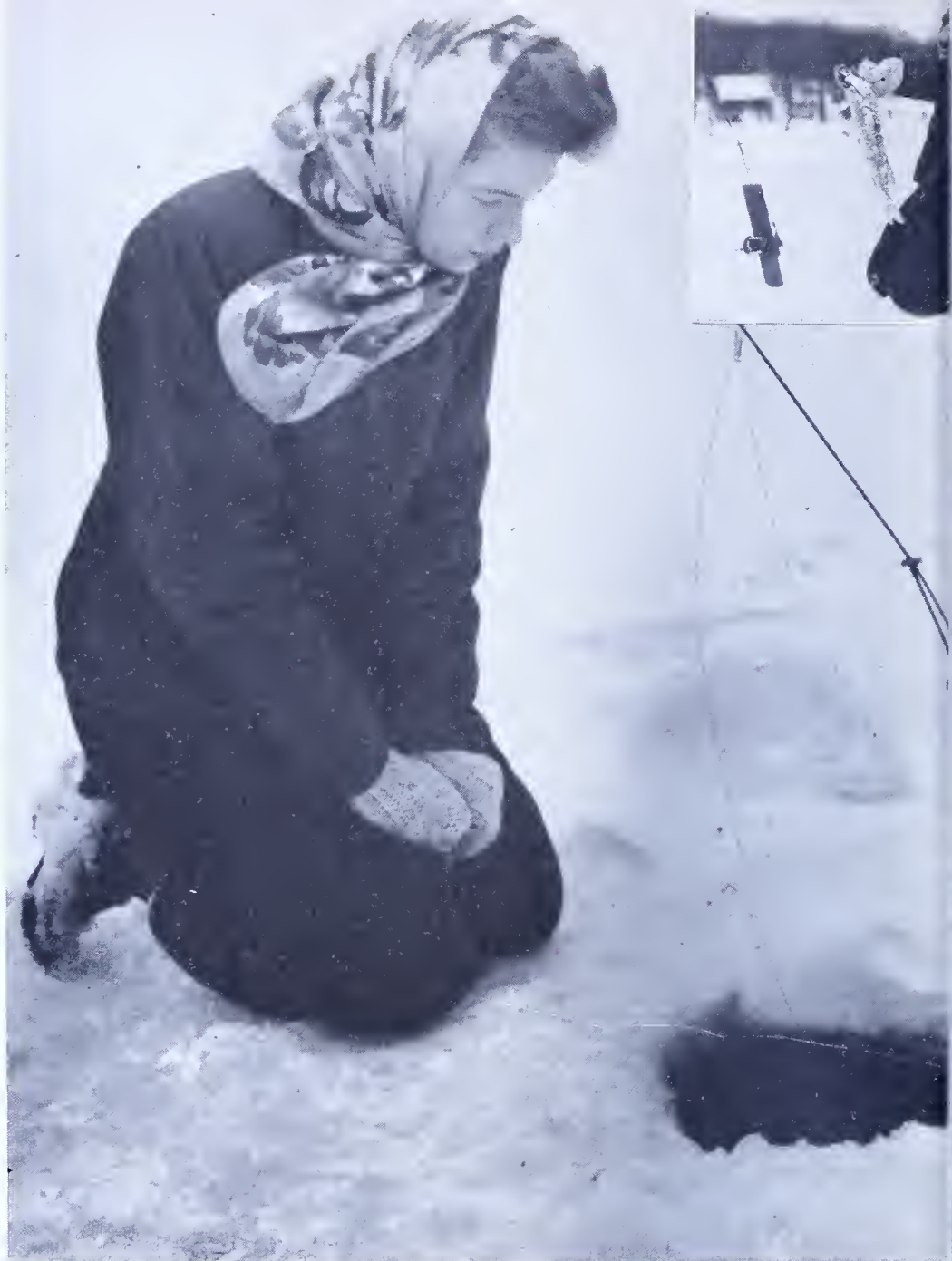
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Ice Fishing on Presque Isle Bay

*... Seven miles long and
several miles wide,
Presque Isle Bay offers
plenty of elbow room for
ice fishermen...*

By **BILL WALSH**



PATIENCE and warm clothes are paramount to successful ice fishing.

One thing about ice fishing on Erie's Presque Isle Bay—you'll never get lonesome. On most good days you'll have hundreds of fishing compatriots for company, and on some of the better weekends, thousands of anglers will be dunking grubs and minnows with you. Generally it's a cold business—but it's always fun.

Mostly you'll catch perch and smelt. When ice holds into February and March, large runs of crappies (calico bass as Erieites call 'em) enter the catch. Occasionally bass, northern pike, and now and then a musky takes the hook—but these are the rarities and not the rule.

Many anglers shun ice fishing, believing it requires the accumulation of a lot of specialized equipment. It's true that the well-equipped ice fisherman often resembles a pack horse with a sleigh on the way to his favorite hole-chopping area, but all that gear isn't

necessary for a start. If you like the sport, you can gather the gadgetry a piece at a time.

To get in the swim of it, all you need is heavy clothing, your regular bait casting rod, and some patience. Plus a fishing license, of course. Most anyone who hunts deer has all the clothes he'll need. The advent of insulated outdoor clothing of high quality has made it possible for the man wearing it to be more comfortable without windbreak than yesterday's ice fisherman behind one.

Best way for a visiting fisherman to gain access to the ice is from Presque Isle State Park (the peninsula, as local folk call it). A visit to the Park Office, located near the entrance, will get you ice safety information, how they've been biting, and other pertinent data. The Park is operated by the Department of Forests and Waters and is kept open throughout the winter for

winter sport activities on a multi-use principle, though it gets its largest crowds during the swimming season.

Downstate fishermen who want to be sure of ice conditions before making the trip to Erie can call the Park Office on Erie phone TEMple 3-6124. Long a "tourist" town, Erie welcomes visitors and local fishermen will move over to make room and have even been known to share a fishing secret or two.

Since you'll be on top of the ice and the fish will be under it, you'll need something with which to chop a hole. Some anglers equip themselves with ice drills, some use power saws (not many), but the old-fashioned "spud"—a large metal chisel—is still the common tool for this purpose. Be sure to provide your "spud" with a thong to fit around your wrist or you may find it slipping through your grasp on the first complete breakthrough. It's estimated there are enough "spuds" at the bottom of the bay to make salvage operations profitable.

A round hole of 5 or 6 inches in diameter is suitable. Chopping of larger holes is discouraged as a safety factor because they may not entirely freeze or may be covered by a light layer of snow by the time another angler (or an occasional ice skater) chances along. Ice fishing is cold enough without inviting the opportunity to get a soaking.

It is legal to fish through the ice with as many as five tip-ups. This ice fishing device is not commonly used, however, on Presque Isle Bay because of the species of fish involved. It seems to be more successful with pickerel. Therefore, ice fishing is limited to two rods and a hand line. When they're biting, a fellow can only handle one rod, anyway, and the only reason for chopping more than one hole comes under the heading of exploration.

While an ordinary bait casting rod can be used, ice rods are best. These can be purchased or homemade. They're nothing more than a wooden handle (provided with a prop so it sits at an angle on the ice) to which is attached a short metal rod. We've seen the rod tips made of spring steel, old hacksaw blades, umbrella stays, and bamboo and steel tips from broken bait casting rods. Usually the wooden handle has a stationary spool attached on which the line is wound. On some this is only a question of two nails, properly spaced. The less metal on a rod, the better, for ice does not form on or cling so rapidly to the wooden parts.

Ice fishing bait is a choice between minnows and grubs, usually. At first the principal grub used was the one found in the gall on a goldenrod stem. Then Mousee Grubs were introduced and were found to be easier to obtain, easier to put on the hook, and just as attractive to the fish. Perch take them with alacrity on the days they're biting. Most of the smelt caught in Presque Isle Bay are taken on lake minnows. Local



CHECKING for depth.

bait dealers usually have them throughout the winter.

As far as bait is concerned, however, there is always room for experimentation. We have observed thousands of ice fishermen over the years but have never seen any use of ice flies or shiny jigging spoons. We saw one fellow using bits of cut-up frozen shrimp. He was catching as many perch as his neighbors. Provided a fellow has the old "standby" bait for insurance, any new ideas about bait should be fully explored.

NETTING minnows.



Best ice fishing hooks are Numbers 6 and 8—with most fishermen using No. 6. You won't need much sinker weight. Trial and error with split shot will turn the trick on that score. The wind-around sinker is often used, too.

Mostly fish are where you find them. But just as deep-sea fishermen depend on "chumming," a few ice anglers claim there are ways to attract fish to the ice fishing hole. The most common of these—and we do not guarantee its success—is to scatter a few handfuls of cracked oyster shell (the kind they feed to chickens) into the hole. It is claimed this will bring fish to your bait. It is not claimed it will make the fish bite it.

As in duck hunting, personal comforts to a large degree control how long you will "stay out" and enjoy the sport of ice fishing. As mentioned before, adequate clothing is the first "must" in this department. On many days it is enough. On a windy, blustery day, a windbreak makes the misery more bearable. A bit of canvas, V-shaped around three or four stakes will do the trick.

Next most important contribution to comfort is some place to park the seat of the pants. An old wooden box, a folding stool, or merely a piece of board that will fit across the bait bucket will turn this trick. But don't forget it. An entirely different set of muscles is brought into play when walking across or standing on slippery ice. The chair is truly appreciated.



INTO THE night for perch and pickerel.

How do you get all this stuff out on the ice in the first place? Borrow a youngster's sled, find a wooden box big enough to hold the gear and you're in business. Serious ice fishermen have their own sleds, in case Junior wants to go belly whopping the same day Pop wants to go fishing.

Although you don't see the ice-houses or fishing shanties common to lakes of the north (because ice conditions vary from week to week) some ice fisher-

men do erect tents on the ice as more adequate shelter than a canvas windbreak.

If you're minnow fishing, a small mesh net with which to dip bait from the bucket is a handy item to help keep hands out of the cold water. Keeping fish fresh is no problem. On most days, merely tossing the fish on the ice will have him frozen stiff in short order. Anglers are continuously amazed when perch frozen in this manner suddenly come to life again when taken home and put into water. Secret is, of course, that the fish never truly died—his metabolism being lowered by the temperature and body processes coming to a temporary standstill. This is doubtless the way in which many species of fish survived the glacial age.

On good ice fishing days it is possible to eat more than enough fish to eat at one time. Some fishermen keep these "returned to life" fish in a basement tank until appetite beckons. They can, of course, be cleaned immediately and frozen. Perch and smelt remain sweetest through the freezing process if placed in a plastic bag with enough water to cover them before being placed in the freezer. This prevents drying and "souring" caused by loss of moisture when frozen the conventional way.

Don't forget the "inner man" when you're out there on the ice. And remember, he'll be hungrier than usual. A thermos of hot coffee, tea, or cocoa is especially adapted to keeping him happy. Foods quick in energy, like chocolate bars, are also appreciated as snacks. Put twice as much butter on sandwiches as you usually do. The body needs such fat and oils to keep warm in freezing weather.

Some anglers bring small stoves onto the ice with them and, at mealtime, really put on a spread—warming pork and beans, canned stews, and hot soups. Once we saw a party cooking the fish they'd caught only minutes before. Can't get 'em much fresher than that—but it's wise not to depend on catching fish for lunch in case they're not biting.

Generally, ice fishing is best when the sun shines brightly and there is no snow cover on the ice. The cover of snow prevents light from penetrating through the ice and the fish are noticeably less active.

On bright sunny days, ice fishermen are often amazed when they return home with a sunburn. Though not as strong as in the summer, the sun's rays, bouncing off the ice as they do off water, are forceful enough to make your friends at home suspect you've had a few days in Florida.

Well—that's ice fishing on Presque Isle Bay. Interesting, exciting, and a good excuse to get outdoors in the open air at a time of year when the outdoors offers little else in the way of activity. As the new car dealers say:

"Try it and you'll buy it!"

Only the Fish Are Laughing

By DON NEAL

What's wrong with fishing in Pennsylvania? This is one of the questions arising from the hearings conducted in mid-1959 by committees of the Pennsylvania legislature concerning the decline in the last two years of fishing license sales in the Commonwealth.

Conceding, of course, there could and would be more fishing in Pennsylvania were it not for our many miles of polluted waters—and that is another story—I don't think there's anything wrong with fishing in Pennsylvania.

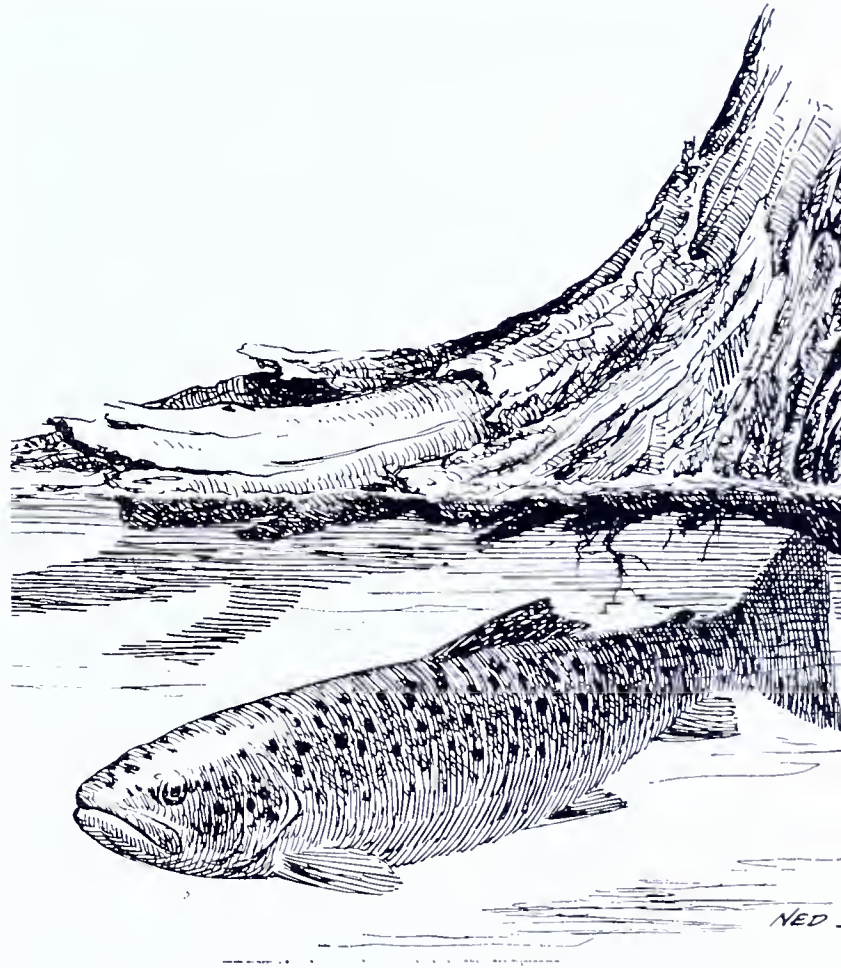
And I didn't make up my mind to this momentous conclusion because I recently brought back a full creel of trout, bass, walleye, or what-have-you. My conviction on this point comes from experience on the streams of the dear old Keystone state that dates back to what are referred to as "the good old days." You'll never hear me call them that. We had, in the early '30's a period that I look upon as "the golden era" of fishing in Pennsylvania, but by that time the "good old days" were gone.

To be historical, let's place those co-called good old days in the early '20's. Admittedly there were a lot of fish then. But what were they? Trout that with an occasional exception took double today's creel limit to make a meal for even a small family; bass that were as thick as flies at a beer picnic, but seldom one that would stretch across a 10" frying pan. In most modern fishermen's appraisal of game fish, such are neither worthy of the tackle employed to catch them or of the utensils used to prepare them.

It has been my observation that it wasn't until the mid-'20's that our better streams started to produce increased numbers of really sizable fish. Gradually, with better patrolling and an increasingly efficient trout stocking program things progressed. By the '30's the trout fishing fraternity, as then constituted, was enjoying some pretty fair fishing. Also, the thinning out of populations in some of our warm waters by the increasing number of fishermen then allowed those gamesters which remained to grow to better size.

By way of elaboration on one point listed above, I think that better patrolling of the streams contributed much to the improvement during this time. The present day angler who meets a gang of fishermen every time he goes on the stream may find it hard to believe that in earlier years it wasn't uncommon to fish all day without meeting another soul—fisherman or warden. This meant a golden opportunity for the blaster. And with the back of a hunting coat full of dynamite

or carbide, such a fellow could and often did clean out a good stream and it wouldn't be back in production for a couple of years. More than once I walked in to a good trout hole with the highest expectations and found that it had been blasted as clean as a whistle. These blasters—and I'm not exaggerating—gathered their fish in wash tubs on the bigger streams. When we got fish wardens on the streams, and more fishermen, we got rid of the blasters. Poor fishing from that cause then became a thing of the past.



MANY GAMESTERS were allowed to remain and grow to a better size.

Then, as I have said, in the early 'thirties we entered what I'll always consider as the "golden era" of fishing in the state of Pennsylvania. Not because there were many streams teeming with big fish—but for the most part because those which were there were worked over by *fishermen*—real fishermen! There was a greater percentage of bass fishermen who could "work" a plug in a manner that was a joy to behold; trout fishermen who, employing the fine art of fly-fishing, imparted a finesse to the sport that carried it above and beyond the crass consideration of the num-

ber of fish killed. The emphasis to them, to a greater degree than today, was not on the fish, but on the fishing. Such an attitude may be hard for many of our present day anglers to understand, but believe me, it brought a sense of pleasure and contentment to the fishermen of that time that all too few feel today.

That's where my personal opinion on "what's wrong with fishing in Pennsylvania" enters the picture. Since World War II both fishing and the fishermen have changed. Today's fisherman, in too many cases, thinks that game fish can be "bought" over the tackle counter of a sporting goods store, and after spending the best part of a week's pay for "guaranteed" lures expects to catch fish, regardless. There's more to it than that. And until that fisherman learns to fish the lures he has bought, the promise made by the tackle salesman doesn't mean a thing. He could be fishing in a stream loaded with fish and still be shut out.

Most streams today are pretty well populated with fish, and as I get around—believe it or not—I see more good fish than I do good fishermen. It's surprising the number of really big fish of all species that are taken on our streams during a season. And it's surprising, too, that some of them are taken without rhyme or reason so far as accepted fishing methods are concerned. But, for the most part, when I meet a fellow who has the know-how of fishing methods I usually find, too, that he has a few nice fish in his creel or on his stringer.

But I have been putting the emphasis on methods' know-how. Important as it is, there is another phase of stream fishing that I find is sadly neglected by most anglers today—the knowledge of streamcraft. Knowing where the fish lie when they are resting, where they lie when they are feeding, where to find them in fast

current, where they will be in the pools, etc. These matters at one time were considered to be of such importance that books have been written on the general subject. Yet today it is not uncommon to see five or six fishermen fishing the most impossible water while the "hottest" spot on the stream remains unmolested.

Mostly, I think spin fishing is to blame for the laxity in this direction. With these outfits the ease of covering all the water makes the fisherman careless about the planned and precise cast to the extent that his coverage becomes promiscuous. He casts thither and yon, knowing that sooner or later his lure will pass over a good fish. And it will. But in the meantime, if fish do have any intelligence at all, such a helter-skelter approach has frightened or alarmed his quarry to where he will shy away from his lure. Even bass, which can be teased into striking a lure from pure meanness, will not generally respond to a clumsily handled plug.

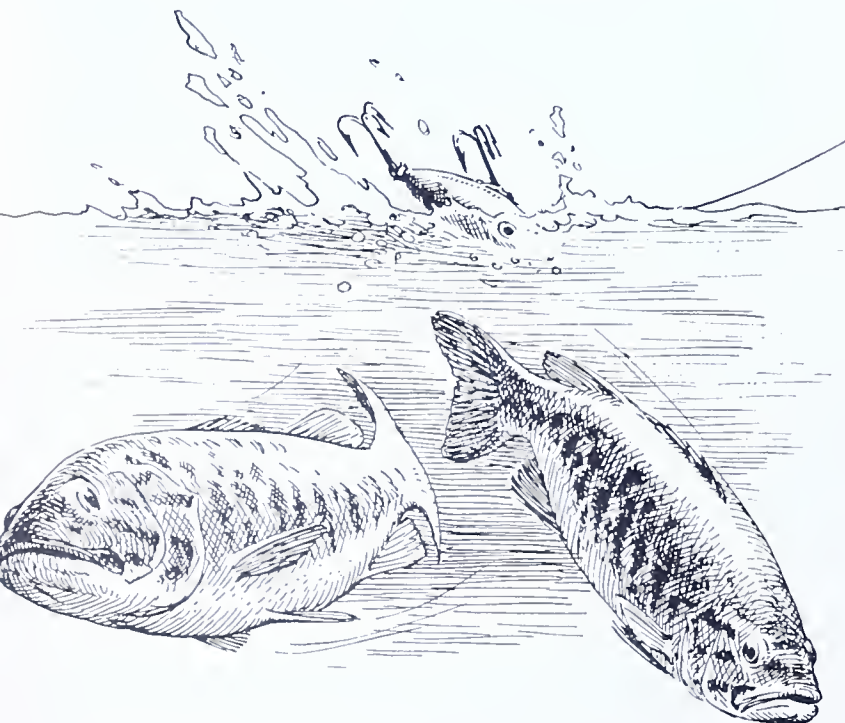
The "planned and precise" cast is a hold-over from the "golden era" of fishing in Pennsylvania. Taking the time to learn and apply it may be too much to expect of the jet age fisherman. The same applies to the other points I have mentioned. And yet it seems reasonable to believe that today's fisherman would catch more fish, or at least be more contented while fishing, if he would take the hint and delve a little deeper into the art of fishing his lures, of "reading" the stream and planning his casts, and above all, of taking the emphasis off catching just to have a creel or stringer full of dead fish. He will find too that it's a greater satisfaction and thrill when he does carry home a fish when that fish was brought to net after a really brilliant piece of stream strategy.

Further than this, as I see it, such action on the fisherman's part is needed to overcome the stigma suggested by the question, "What's wrong with fishing in Pennsylvania?" We have, I am certain, in many of our waters more and bigger fish than in the "good old days." And we have more time to spend there than any generation before us. So, what's the problem? Mostly, it's the fishermen's slipshod, inept and leave-it-to-chance methods of fishing. Until these shortcomings are corrected—only the fish are laughing.

Conservation is a state of harmony between mer and land. By land is meant all of the things on, over or in the earth. Harmony with land is like harmony with a friend; you cannot cherish his right hand and chop off his left. That is to say, you cannot love game and hate predators; you cannot build the forest and mine the farm. The land is one organism. Its parts like our own parts, compete with each other and cooperate with each other. The competitions are as much a part of the inner workings as the cooperations. You can regulate them—cautiously—but not abolish them.

—Aldo Leopold

BASS which can be teased into striking a lure will not generally respond to a clumsily handled plug.



When Fishing Gets Tough

By **DICK FORTNEY**

Late last summer, when the weather was hot and sticky and the trout streams of Central Pennsylvania were crystal clear and extremely low, many fishermen put their tackle away and gave up trout angling for the season. But not all did.

A friend of mine continued fishing regularly, and in spite of unfavorable weather and stream conditions consistently caught large rainbow and brown trout, including one that weighed a little better than five pounds, taken on next to the last day of the season.

He always began his fishing trips early in the evening, when the sun had turned off its blazing heat. He concentrated on the deep pools of the larger trout streams.

But the real secret of his success, while other anglers were despairing, was his use of large wet flies, some of them tied on No. 2 hooks, made in 10 or 12 different patterns. He fished them with great care, and they brought strikes from heavy fish that he knew would be hungry and would feed no matter how hot the weather or how low and clear the streams happened to be.

One of the fascinating things about fishing is the never-ending succession of challenging problems that arise to confront the angler—and sometimes to compound him. He has a choice between putting his tackle away in frustration or meeting the problem head on and solving it.

Take the matter of bass that, toward the end of the summer, seem with devilish cunning to have learned to recognize commonly used artificial lures as dangerous (for them) fakes and that spurn live bait because, it seems, they have learned to know that hooks are hidden inside.

I have a personal suggestion or two on this point.

1. Use a very sparsely tied streamer fly with a small spinner. The construction of the streamer is important. The hook should have a long shank; about an inch and a half is good. The body of the streamer should consist of nothing more than one layer of silver tinsel wrapped from the eye to the bend of the hook. The wings should consist of not more than four slender saddle hackles or just a pinch of dyed hair. Barred black, red and white, brown and white, all black, and all white are some good color combinations.

Bass will strike this lure consistently, even when other lures and even live baits are ignored. The reason

seems to be that when the streamer is wet, and the thin hackle gets matted, the lure looks like a very lively minnow darting through the water.

2. Use the smallest underwater plugs you can handle with your casting tackle, or fish them with spinning gear.



BIG WET FLIES, fished in the evening in the deep pools of the larger trout streams, bring action in that period of the year when trout fishing is most difficult because of hot weather and the low and clear condition of the streams.

As often as the point has been made that bass are more often frightened than they are attracted by big plugs, many anglers have not seen fit to try the mid-gets, which in many cases are miniatures of the big lures that have been well known for many years.

Small plugs are ideal for fishing when the water is low and clear, for they make a minimum of disturbance when they strike the surface of the water on the cast. Being light in weight, they also are easy to use in pocket water, where rocks and other bottom obstructions wait to snag heavier lures.

But perhaps most important of all, the miniature plugs give a reluctant bass something new to challenge his curiosity or to arouse his appetite. At least, this will be true until more bass anglers begin using

the baby plugs instead of those of larger size or turn to miniature lures instead of live bait.

3. Try fly-fishing for bass.

Large, colorful dry flies can bring some surprising results when floated down deep riffles or on swift glides on bass streams. Bucktails and streamers are good for bass fishing, and so are wet flies.

Bass, you must remember, do not feed exclusively on such natural fare as minnows, frogs, hellgrammites, stone-catfish, and worms. They eat large amounts of insects, the same as trout do.

I remember one summer evening several of us were en route to a favorite stretch of a Central Pennsylvania stream to do some trout fishing. Near the area to which we were driving, we drove across a bridge spanning the stream. We stopped and looked upstream, toward the head of a large pool that extended beneath the bridge, and immediately we saw a considerable number of rising fish. The dimples they made in the surface of the water made us decide to stop right there and get busy.

The first member of the party to begin fishing used a Dark Cahill dry fly, Size 14, and got a good strike on the first cast.



HERE ARE SOME typical miniature plugs that because of their small size and the ease with which they can be handled—and because bass are not accustomed to seeing them—will often produce action when bigger lures and even live baits fail to produce.

But the fish was not a trout. It was a bass about 10 inches long.

Thinking that catching the bass was just an accident—for this stream contains both trout and bass—the three of us fished with a variety of patterns for half an hour.

We caught only bass. Every one of them was of legal size or longer, but all were returned to the water, for it was June and several years before the bass season opened before July 1.

There's another idea—bass fishing with regular trout flies.

Let's get back to trout fishing for a bit.

What do you do when you encounter a trout stream pool where the water is flat and quiet as the surface of a mirror?

A spider fly is the answer to this problem.

This type of fly is nothing more complex than a short-shank hook around the center of which several large hackles have been tied. There is no tail, and no wings. A gold-plated hook is preferred by some anglers, but it is not at all necessary. Long hackle, however, is vital. It should fan out around the hook shank to at least the circumference of a silver quarter. A spider with a hackle spread about equal to the area of a silver half dollar is not too large.

The spider must be cast carefully, preferably at the head of a pool, where there is some current, and then allowed to drift naturally. Patience is of the essence. The lure may drift a long way before a trout rises to it.

Even when and if the current peters out, and the fly lies motionless on the surface, do not be in a hurry to lift it. I have a friend, a spider expert, who always counts to 100 before picking up the fly for a new cast. He has learned that trout sometimes take quite a spell to make up their minds to strike a motionless spider.

Now and again the spider comes in handy when trout are feeding in heavy riffles where it is difficult to fish a conventional dry fly. The spider, with its big expanse of hackle, floats well on broken water.

As for effective patterns, brown, black, barred rock, ginger, and occasionally white, are good.

The technique of contrast often solves a trout problem.

For example, when trout are feeding on some small drab natural insects that, try as you will, you cannot match, turn to a fly that is in direct contrast—big and colorful. It doesn't always work, of course, but a fly that is a complete foreigner among the natural insects will incite a trout's curiosity often enough to make the effort well worthwhile.

Use of a small fly when trout are feeding on big natural insects also is a way of applying the principle of contrast.

Do you know, for example, that hatches of May flies often are accompanied by hatches of smaller insects that are perfectly matched by small sizes of the Dark Cahill? And that often you can take trout by fishing a small Dark Cahill in the midst of a May fly hatch if the imitation May flies you are using fail to bring action?

What to do about trout that are feeding in the shallow tails of pools?

The suggestion most often made is that the angler rig up a leader 12 to 20 feet long, with a small, well-tied dry fly on the tippet; that he wade carefully out into the water; that he then stand still until the trout get over their nervousness and begin feeding again; and that he finally make long casts with pin-point accuracy and no disturbance of the water at all.

That's doing it the hard way.

One of my favorite fishing companions has an easier solution, born of the fact that he, like most other anglers, finds it extremely difficult, if not impossible, to handle a leader 12 to 20 feet long; that he cannot always be sure that his fly will alight on the water on the precise spot at which he is aiming, and that he finds it too hard on his nerves to stand motionless in a pool for 10 or 15 minutes waiting for the trout to begin feeding.

He uses a stout leader and a big, bushy, and well-leashed dry fly. He casts it as far as possible across the stream and lets it drift down into the tail of the pool. Then he raises his rod tip high, strips in line swiftly with his left hand, and makes the big fly leap and dance across the surface of the water.



SPARSELY TIED streamer flies for use in combination with a spinner in bass angling. Note that the bodies of the lures consist entirely of tinsel and that the wings are made of slender saddle hackles or strands of dyed hair.

I've seen trout strike so viciously at the dancing fly that they nipped it right off the end of the leader!

Of course, we haven't covered all the problems of fishing in this short article. But we have set forth a sufficient number of problems, and suggested some solutions to them, to prove the point that the angler who puts his tackle away for the season when fishing gets tough is missing some of the bigger thrills of fishing.

SHAPE, ACTION or WHAT?

What do you suppose is on a fish's mind when he goes shopping around for a lure to smash? Unless he becomes enraged over the intrusion of a chunk of plastic, wood or metal, he doubtlessly looks for something closely resembling the tasty, nutritious dishes he's accustomed to.

Taken literally, says the Mercury Outboard Company, this would suggest to an inexperienced fisherman that he should rush out to buy lures that are identical copies of natural fish foods. But, hold on—fooling a fish is no simple matter and it takes more than looks to induce a strike.

Actually, some of the best lures, proven by thousands of anglers over the years, do not even faintly resemble natural foods. In fact, some are so absurd

they raise doubts to a fish's mentality . . . yet they produce. It becomes apparent, then, that some other factor enters the picture.

When fish ignore a perfect imitation and choose a lure that looks like something you'd expect to find dangling from the ear lobes of a blonde, you'd be safe in assuming that fish have bad vision for outlines and details. Then what he does see is mainly *size* and *movement*.

Therefore, the important considerations are to use a lure of the proper size and fish it in a manner that closely resembles the movement of natural foods.

Pattern, color and shape play less of a role than frequently cited. It's the man behind the rod who fools the fish, not a cleverly designed lure.

"The noblest task that confronts us all today is to leave this country unspotted in honor, and unexhausted in resources. I conceive this task to partake of the highest spirit of patriotism."

—Gifford Pinchot

HOOKS-QUIZ

By DON SHINER

Fish hooks play the leading role in sport fishing. These small, though critical, items of tackle are made in a wide range of styles for specialized jobs in angling. Here are a few of the many variations found in these

wire instruments.

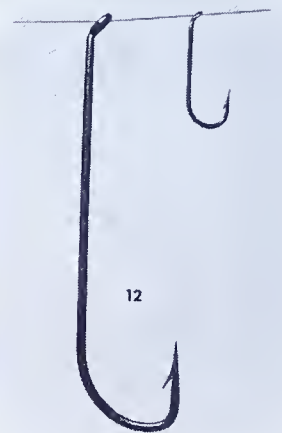
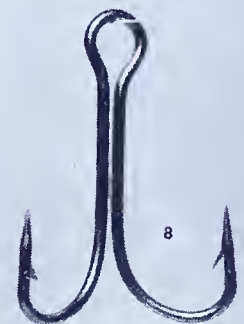
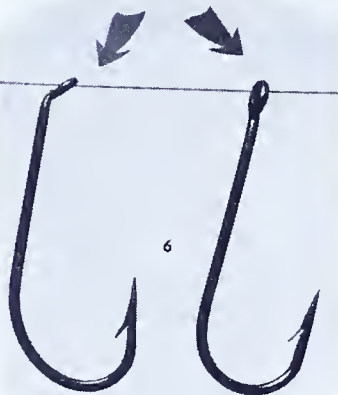
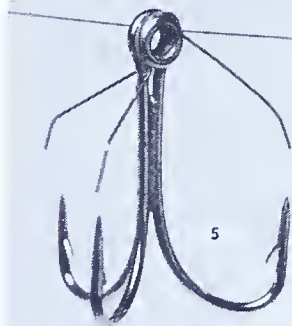
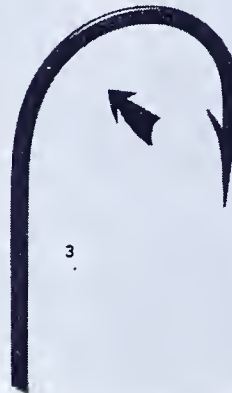
Test your hook knowledge with this series of photographs. Careful now, they're sharp!

1. Why the hump shank?
2. Known as a
3. Identify this part.

4. Known as
5. This is a
6. Name the eyes.

7. Why the barbs on shank?
8. Known as a
9. Specialized hook for

10. Known as a
11. Specialized hook for
12. Long shank hook is for



ANSWERS:

1. Cork body fly; 2. Weedless hook; 3. Bend; 4. Offset bend; 5. Weedless treble; 6. Turn-down, ringed eye; 7. Bait holders; 8. Double; 9. Minnow bait; 10. Snelled hook; 11. Minnow bait; 12. Streamer fly.

Straight Run Isn't Straight—Again

By "SHORTY" MANNING

This is a story involving a stream and some people, including the writer, spanning three eras for the stream, the first of which goes back to 1910. Since that year, almost a half century ago, the stream passed out of one of its eras, coursed through a second, and is now in the early stages of the third—the present one.

And a bit of personal biography is woven into the story because the stream has figuratively meandered through my life no less than it actually meanders through northern Tioga County. The name of the stream: Straight Run.

My old home was up Norris Brook in the same general vicinity. As my memory serves, it was in early May, 1910, that Harry McInroy, now a member of Pennsylvania's General Assembly from Tioga County, his brother, Edward, my nephew, Leon Moshier, and I planned an extra special trout fishing trip.

In due course, four teen-age boys—that was us—were headed southward over the mountain. Late afternoon caught us short of our destination between the Asaph and the Straight Runs, but near one of the Straight Run tributaries. We selected a spot to spend the night that was between two large piles of corded wood.

There was still some of the day left; enough for two of us to get in some fishing on the tributary while the other two prepared camp.

Harry and Leon drew the lucky pegs to go fishing. The camp chores befell Ted and me. These included gathering and laying pine boughs and fern on which to bed down, and piling up a supply of firewood to keep us warm through the night and to frizzle the trout we had no doubt would come back with our buddies.

There was no disappointment for any of us, especially in the fish department. They came back with about 25 gleaming pan-size natives—brook trout, that is. Cleaned, seasoned with salt, pepper and butter, skewered on forked sticks and roasted, they were a real treat.

Sack time came early, as we planned to start with daylight in the A.M., to and down the Asaph and Straight Runs. Fly rods were all assembled, including mine and Ted's which earlier were made ready for immediate action come morning. The rods were laid atop of a wood pile. All except mine. It was set on the ground, against a pile.

I had a hazy recollection of a crunching noise during the night, but paid it no mind. I should have, because when I picked up my rod upon arising, there



THE PROOF of any stream improvement project is the abilities of the devices to withstand the pressures and hammering of ice and flood and to provide suitable fish habitat during low flow periods. Pictured here during the low flow of last summer are three improved portions of Straight Run in Tioga County after two winters, proof that the Ansonia Rod and Gun Club did a good construction job. That they also provide summertime trout habitat is also self evident. *Photos by J. Nicklus.*

was no cork left on its grip. The crunching sound I heard was undoubtedly a porcupine dining on cork that was well seasoned with salt absorbed from many palm-sweating sessions I inflicted on it.

Though disconcerting, it interfered not one whit with our departure nor the fishing that was done a bit later. We again split into pairs, Harry and Leon to fish down the Asaph and Ted and I down the Straight. When we met well down the valley late in the day, we all had all of the speckled beauties we cared to carry.

In those days both streams were no different than they had been for hundreds of years. They were story-book mountain streams that had everything—pools, pockets, undercut banks, fast flowing runs, riffles and plenty of shade. So it mattered little whether high water or low, there were places at all times that gave sanctuary to the stream's natural quota of native brook trout.

And they remained that way until in the early 1930's. It's at this point that the second era was entered—probably of the fewest number of years, but certainly the saddest years for Straight Run. The Asaph was spared.

Today's older generation will remember the CCC of early "New Deal" days. Admittedly the Civilian Conservation Corps did much good both on the countryside and for some of the nation's youth in those deep depression days. But assigned to the camp built in Straight Run Hollow was a learned engineer who figured Straight Run wasn't right because it wasn't straight and he set about to rectify the matter. Some bulldozers were put into service and good old Straight Run was made just that—straight.

During the next 25 years or so, Mother Nature corrected some of the damage. A bit more in the way of repairs was done by a few individuals. Meanwhile, it was put on the stocking list by the Fish Commission, annually received its quota of hatchery trout and again provided some fairly decent fishing during the early weeks of the season when the stream flowed reasonably full. However, during the periods of low rainfall the resulting lowered stream flow and raised water temperature not only played hob with the fishing, but few of the fish that were not caught were able to survive.

It was for this reason after the stream was surveyed in July, 1957, that Dan Reinhold, the Commission's north central regional fishery manager, recommended it be removed from the approved trout stocking list. It was.

And thus ended the second era for Straight Run being covered by this story.

None in the area were ever happy with what the CCC did to the stream. And so long as state stocking

kept fishing alive in it, there was little real concern. But when that stopped, things started to pop.

In Ansonia is one of the state's most conservation minded sportsmen's groups—the Ansonia Rod and Gun Club. They could find no fault with the Commission's action. They knew it to be right. They also knew what had to be done to reverse the action. And rather than make demands of or wait upon any person or agency, they rolled up their sleeves and went to work. A stream restoration project was initiated and by fall, 42 dams and other stream devices were constructed. Some were built at right angles to the flow, others at lesser angles needed to improve trout habitat.

I'm right proud of the blisters and backache I acquired in the construction of the first eight of those dams. And I might add that District Fish Warden Leeland Cloos acquired his share of the same throughout the entire project.

Now they were ready to invite Dan Reinhold back. He responded promptly and with him came Maynard Bogart, Fish Commission member representing the nine-county district of which Tioga County is part.

Result: Straight Run was put back on the stocking list.

In the two years since the work was done, the efforts expended by the sportsmen have proven to be well worthwhile, and the decision by the Commission to again stock to be fully justified.

Today, this once ruined stream has almost returned to the state of excellence it presented early in the century—thanks to the self-help action of the Ansonia Rod and Gun Club. That same group is now planning similar projects on other spoiled streams in their area. They are asking nothing from others, not even assurance that their improved streams will prompt revisions in the stocking program of the Fish Commission. They are confident the jobs will speak for themselves and that the fish will be forthcoming.

Before closing, permit me one last observation. Nearly every stream in the state can be improved. Though stream improvement is part of the whole new program of the Fish Commission, it will be more years than any of us will live before that agency could possibly do the job with the limited resources at its disposal. So, if any club is looking for a project to justify its existence or to fire up its membership, meanwhile improve fishing in their own back yards, get busy on the streams in it.

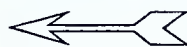
Take it from one who knows, the Fish Commission from your local warden to the commissioners themselves is ready to lend a hand. In fact, they insist upon it.

Only when the job is done will you know the satisfaction I feel each time I see Straight Run, almost as it was back in 1910.

Delaware Sportsmen Honor Manning

Photo by F. F. Zimmerman

LeRoy F. "Shorty" Manning on the left of the photo, author of the preceding story (Straight Run Isn't Straight—Again" on page 11), receiving the first Conservation Award by the Delaware County Rod and Gun Club from Ed McCorkie, club president, early last year. The citation accompanying the award was a long list of contributions Shorty has made to the sportsmen and conservation in Pennsylvania through the past quarter century. Included on the list was the part he played in the restoration of Straight Run. "Restoration at Prospect Park" in the April, 1959, ANGLER described another of his efforts.



"HURRY U-----p!"

... said Barbara Heilman of *Sports Illustrated* to the photographer as he was setting his focus and flash adjustments to take this shot of her with two "getting heavy" muskies caught earlier by friends in the Tionesta Reservoir in Forest County. Dimensions 31, 37, 61—the lengths of the fish and "Barby" in that order, that is.

Miss Heilman was on a fishing story in late fall and a special guest on a scheduled Fish Commission float trip of the upper Allegheny River, which was mainly to search out additional possible access sites. All purposes were served though the fishing end of the expedition was transferred to the reservoir. For the first time since spring, the Allegheny greeted its visitors with a two-foot rise and muddy water. And the planned "jigging" for smallmouth and walleye under the tutelage of the Game Commission's Bob Parlamen, gave way to plugging on the reservoir.

Living nearby, Parlamen has become an expert on the river and the "jig" method of fishing it. (See "Organ Grinding and Jigging"—July, 1959, ANGLER.)

Anyhow, *Sports Illustrated* got a story. Not the one expected, so "Barby" will be back. "And that's a promise," she said.

—C. R. Glover

Wintertime—Fly Time

By **DON SHINER**

Photos by the author

Have you ever reflected upon your flies as the capstones in trout fishing and said, "merci beaucoup" for a fine season? I have. Many times. Some of the threadbare patterns are held in higher esteem than brand new models fresh from the tier's vise. Reason is, these aesthetic bundles of feathers and fur provided the bait to lure many handsome trout into the creel. And so, when trout season ends, as it has now, it is with a nostalgic gesture that they are laid aside until another spring unfolds. But never be too hasty to put them aside in some dusty corner until you have administered some first aid to these delicate tools.



STORE DRY flies by standing them on their "face." This prevents hackle and table fibers from bending under the weight of the fly.

USE A magnifying glass to examine the point and locate possible fractures at bend.



Bent under the sagging weight of water, torn by the jaws of trout and matted with coatings of mucilin, the box of flies is normally in a sad state by the end of the season. It is time now, when the hectic days of spring activity are far removed and a full winter away, to restore the flies to better condition. This evening, while your wife is brewing that second cup of coffee, work over the box of flies. Use a pair of tweezers to hold each fly over the steaming coffee pot spout. The live steam will fluff the feathers to their original stature. Hackles springing upward instantly in the steam lane to their former being are interesting to watch. Then once again the flies can ride the currents on their dainty finger tips and give the appearance originally intended, that of a newly hatched May fly.



FRACTURES TO bends of hooks are used by getting hooks caught in tree limbs during backcasts.

Before the coffee has been brewed to your taste, you will be able to steam half a hundred or more flies. It takes this short a time to increase the flies' effectiveness next season. But the full treatment does not stop here.

Take the matter of storage. Too many fishermen, and I confess that I am one of these, tend to cram entirely too many flies into a small box or a small compartment of a box. This results in bending, flattening and matting the hackles and wings. It is highly recommendable to store the dry flies loosely in a cardboard box. Then, stand each fly carefully on its "face." This method does not permit the weight of the fly to bear directly on the hackles and tail and distort or bend these fibers. A fly in this position requires a box to be at least 1½ inches to two inches deep. Take pains



IT IS fruitless to continue fishing with this fly. Fish will rise for it, but it certainly won't hook them.

to be so particular, or "fussy" as my wife terms it, and it will result in achieving more action on the stream.

After the steam has unruffled the feathers, use a magnifying glass to examine the bend of the hook. A non-important task you say? Not at all. I have, and others have, lost more trout in the past through broken fly hooks than I expect to catch throughout the length of the coming season. Hitting tree limbs in the background during the backcast is the misdemeanor.

When casting, the fly rides along much as the knot at the end of a whip. The shock of striking a limb, or the pressure brought to bear on the hook when it snags a tree in the background often fractures the steel. The most common place is midway between the point and barb and the actual tail of the fly. Then on subsequent casts, when a heavy trout socks the feathers, the pressure on this fracture causes the hook to break and the trout to get away. Unless the fly-fisherman is schooled into suspecting a broken hook might be the cause and takes time to examine the fly, he may continue casting to rising trout and miss hook-

HONE THE point to needle sharpness. Hook then has better penetration ability.



ing trout after trout after trout. I know. I have had this happen many times and truth revealed after examination has always caused me to grit my teeth to refrain from uttering some profane words to relieve the frustrations.

If you will examine the fly hooks now, you can frequently find cracks in hooks by a thin rusty line or discoloration. The tiny crack permits water to enter through the rustproof finish into the steel. If a magnifying glass reveals a line or rust spot, in the center of the bend, you had best discard the fly. Else it will eventually mean a break and the loss of a fish. If the fly happens to be one of your favorite patterns, and invariably it is, make a note of it so that you can replace the fly before you don waders again.



PLACE A droplet of lacquer or cement on the thread wrapping (knot) at eye of fly. This will prevent fly unraveling.

While glassing the bend for fractures, examine also the point of the hook. Tree limbs, underwater debris, even bony jaws of hook-nosed trout will dull or bend the point. Hone this to needle sharpness. Sharp hooks penetrate quickly without much effort on your part. This means finer and lighter tippets and leaders can be used with less chance of breakage when setting the hook. This fact alone contributes to more trout caught and released on pools of glass smooth water or crystal clear riffles.

There is still another point to fly first aid. This has to do with the thread wrapping in the immediate rear of the eye. A fly is, in reality, a thread wound around the steel hook which holds bits of feathers and fur in place. To permit this thread to unravel means the fly is also unraveled and destroyed. The thread is knotted at the eye of the hook after wings and hackles are tied in, so this predicament cannot



BE SURE to place moth crystals with flies while storing them during the dormant winter months. This may save heartbreaks in the spring.

happen. It is further coated with cement or varnish to protect it. But this chips off and wears away, exposing the raw threads to water and wear.

A new coating of cement or varnish should be applied on thread-bare knots. Clear nail polish works fine. Apply a small drop and permit it to dry. Make certain the eye is not clogged, then place the fly in storage on its face.

Not a great deal can be done to rejuvenate ragged

wings, unraveled bodies, broken tails and hackles. You might trim these parts with a small pair of cuticle scissors, so that the fly does not have too bedraggled an appearance.

Oddly enough, the accepted theory among many excellent fly fishermen is that the more bedraggled a fly is, the better a trout likes it. I used to hold to this theory too. But the facts are when the hatch emerges and trout boil the surface, they are none too selective in color, shape and in some cases, size. The matted fly that looks like a mashed dandelion flower takes trout then. So will a fresh one, which quickly becomes somewhat bedraggled too after the second or third fish. But at other times, when the chips are down, and you have got to work hard for your pay raises, the best looking fly has an edge over a poor looking one.

The sixth part of fly first aid concerns the use of moth crystals. Be sure to place a generous amount of this chemical compound in the container to prevent the damaging little moth insects from devouring the flies. Nothing is more heart breaking to a serious fisherman than to find bits of thread and bare hooks as evidence that moth dined on the treasured flies.

Perhaps these fly aids do not sound very exciting or important. But fly care pays dividends. Wait until spring and you are again standing hip deep in a cool trout brook. You will be glad the flies have their best foot forward. Trout prefer good looking flies. Fishermen should too!

Think Like a Fish

Ever cast for two hours without raising anything except a blister on your thumb? If you have, then you're an average guy.

When this happens, don't continue wearing out your casting arm. Pause a moment, advises the Mercury outboard company. Stop—and try to think like a fish instead of a fisherman.

If you were a bass, for instance, what would you be doing? If you had a small mouth you'd be gliding over a submerged bank looking for a crayfish, or you'd be in deep water along a rocky shoreline. If you had a big mouth you'd probably be in shallower water near an undercut bank, submerged logs, or aquatic weed growth. You'd be thinking about crayfish, but you'd also be watching for a minnow to dart out into open water.

What if you were a northern pike or muskie? It may be difficult to imagine being so ugly, but, if you were, you'd spend most of your time hanging around a weed bed. Always in a bad mood, you'd be thinking about tearing into anything smaller than you that happened along.

If you were a walleye, you'd have almost the same

habits that a smallmouth bass does. But you'd be a little more sociable. You wouldn't think about moseying down the stream without a few of your cronies along.

In the evening and morning you'd more than likely be on the prowl for food, and, no matter what kind of fish you were, you'd reserve certain periods during the day for a siesta.

When the water was cold you'd slow down because your blood is a little like the oil in a gear case—it thickens with lowering temperatures. When the temperature was just right you'd be as frisky and hungry as a young pup. And, when it got really hot you'd slow down again like people do.

Most of the year you'd only have your mind on two things—food and protection from your enemies. Despite what fishermen think, you lead a simple life.

Catching fish is just as simple, says Mercury, if you'll forget women, the office, and unpaid bills.

Think like a fish, and you'll catch more of them.

—*Outdoors Inc., Columbia, Mo.*

The Mysterious Will-O-The-Wisp

By DR. LEON A. HAUSMAN

How many of our readers have ever seen a ghost? I don't believe in ghosts, you say. Well, I didn't ask you whether you believe in them or not, I asked: Have you ever seen one? For you do not have to believe in what you see; I suppose you know that. For example, an old farmer-friend of mine (who goes off fishing whenever he can "sneak away") said, "I don't believe in infant baptism, but I've seen it." But let me tell you a story—yes, several stories, about the creature (this old English word originally meant anything created) called the Will-O-The-Wisp. This, by the way, is not a fairy tale, for the Will-O-The-Wisp is a real "creature," and sooner or later, as you roam the woods following a trout stream, or . . . but let's get on with the story.

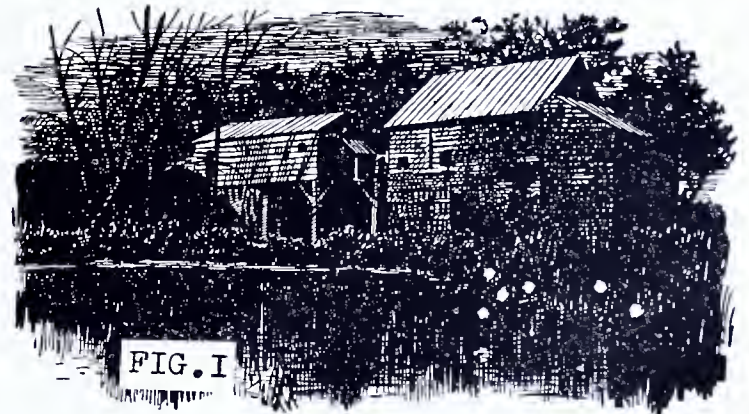
The writer and Mrs. Writer, one warm summer evening, reluctantly reeled in their surface plugs (we had been plugging for bass, or, I blush to admit it, even for sunfish). The stout black lines were acting like Laocoon serpents, writhing and tangling about every twig in the vicinity. But finally we were all packed up and had started for home through the now fast-gathering darkness. Our way led along the shores of the little lake—hardly more than a large pond—to an upper arm, where it ended in a marshy slough, where stood an old disused mill, whose presence there indicated that a fairly vigorous stream once poured into the pond, until some beavers had dammed up the opposite end and raised the water level.

Suddenly Mrs. Writer exclaimed, "Look there! Don't move! There's a Will-O-The-Wisp!" And so there was, several Wisps, in fact. Our illustration shows exactly what we saw (Fig. 1). Six little whitish-blue lights, about the size of tennis balls, hanging uncertainly and waveringly among a stand of cattails at the opposite side of the watery slough. Their light was ghostly, ethereal, vaporous, tremulous. Suddenly a faint night breeze stirred among the leaves and rushes, the merest suggestion of a breeze, like the sigh of Nature settling herself to rest; and instantly the lights vanished. A moment more, and two of them returned, in a slightly different spot; commingled and disported, wavered about, then paled and disappeared. We waited, perhaps twenty minutes, that warm summer evening, seated on a comfortable, soft, decaying tree-trunk, hoping that the fairy lights would reappear. Then, as we continued on our way we saw low down through the trees, as though it were hanging and flashing from a dependent branch, the great planet Venus, brightest light of the night sky after the Moon, and recalled

that this bright planet, low, and just before her setting has, from the earliest times, often been mistaken for a Will-O-The-Wisp light.

Many persons have seen these mysterious lights, and their accounts are always very much alike. I have collected many firsthand accounts, both in this country, in England, and on the Continent, and they all concur in saying that the lights are seen in damp places, usually along the weedy and reedy borders of swamps, ponds, and sluggish streams (though sometimes in low damp woodlands); that they are bluish-white, or bluish-violet, or pale lilac, or white; and about the size of tennis balls, or sometimes of English walnuts; never smaller in diameter than about an inch and a half; that they wavered and danced and trembled and sometimes vanished and then reappeared in some other spot; and that they usually were seen from a foot to three or four feet from the ground.

Will-O-The-Wisp goes by many names, some of which are: Ignis fatuus (vain fire), Spunkie, Jack-O-Lantern, Corpse Candles, Friar's Lantern, Wildfire,



Foxfire, Marsh Candles, Fairy Lamps, Our Lady's Candles (when it was believed that the lights had shown the way to a lost traveler).

What is cause of these mysterious lights, for mysterious they still are, even to students of the strange phenomenon? It may be that a conglobation of luminescent bacteria (of the Genus *Achromobacter*, which is well known) is carried upward by air currents rising from damp soil, or from masses of decaying aquatic plants of any kind (higher plants such as cattails, or lower plants such as molds, slime fungi, larger fungi, the protonema of mosses, and the like)—air currents as we say, may carry upward these light-giving bacterial globes. But under what conditions can masses of bacteria "hang together" thus in air, or be loosely held against stems and bushes? This is

certainly as mysterious as anything about the phenomenon. But it is possible they may be held together for a few brief moments. Natural Science has told us stranger things than that! Luminescent bacteria (*Achromobacter*) can be grown in cultures in the laboratory, and can be seen with the higher powers of the modern compound microscope. Some members of this genus are shown in our circular figure

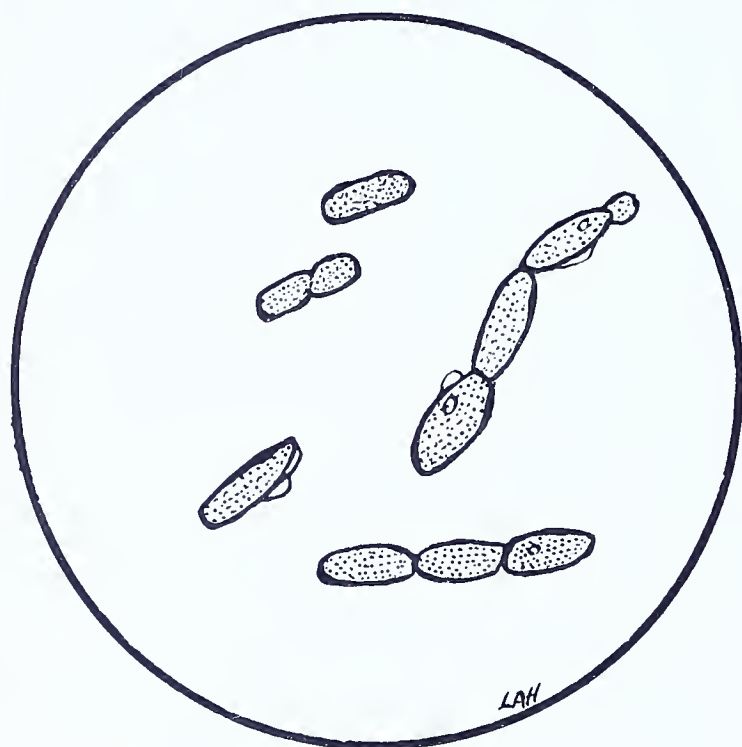


FIG. II

(Fig. 2) (which represents a microscope "field"), as they appear under about 2,000 times magnification, through the writer's microscope. These are, I believe, too large to be borne upward on gentle air-currents, but they give us an idea of what these luminescent "Will-O-The-Wisp bacteria" may be like, when and if they can be entrapped, fixed, and mounted on a microscope slide. It is a matter of extreme delicacy, extreme patience, patience extended over months and months of time—and then, luminescent bacteria may not have a thing to do with the problem!

Will-O-The-Wisp lights may be due, some competent students of chemistry believe, to the production of marsh gas (Methane), resulting from the decomposition of plant or animal tissue in bogs and fens, where it is well-known to occur, and frequently, too. Methane (CH_4) can be synthesized in the chemical laboratory. It ignites under relatively very low temperatures, and glows with a light similar to that exhibited in the Will-O-The-Wisp. Methane is the chief constituent of "natural gas." But what could hold the molecules of any gas within a globular form, in the free air? This is the question here.

Again it has been suggested that the lights are of an electrical nature, similar to those which appear on masts and spars of vessels at sea, and known to the sailors as St. Elmo's Fire. To this theory there are few adherents.

Some observers "throw up the sponge" at this point (not the true scientists however), and say, "Oh well, it must be spirits." And it is undeniable that a few glasses of "spirits" will enable any observer to see all sorts of lights of all colors of the rainbow! But, dear Reader, with such spirits have little to do!

Will-O-The-Wisp has been known to man ever since man has been known to the Will-O-The-Wisp! Old records are full of references to it. Poetry, through long ages, has woven its magical themes about it. The folklore of all peoples abounds with allusions to it. Milton, in "L'Allegro" wrote:

"She was pinched and pulled, she said
And he by Friar's Lantern led."

Again, in his "Paradise Lost" we read (referring to the mysterious lights):

"Misleads the amazed night-wanderer
from the way
To bogs and mires."

There are some who suppose that Washington Irving's "Headless Horseman of Sleepy Hollow" was inspired by the presence of Will-O-The-Wisp lights seen in some of the dark damp valleys and ravines among the Catskill Mountains, where Irving loved to roam.

Charles Dickens does not refer to the Will-O-The-Wisp bacteria (if there be such) but he does speak of the luminescent bacteria of decay, by allusion to the appearance of the face of Marley's ghost, in his "Christmas Carol," when he says that it looked "like the light given off by a bad lobster in a dark cellar."

Will-O-The-Wisps were usually considered to be appearances foreboding evil, or as definitely bent on the destruction of night travelers, by luring them into quaking bogs, or diverting them from the safe path. This is seen in the majority of the names it bears suggestive of evil purpose: Ignis fatuus (vain, or foolish, or false fire, are all equally accurate translations). Then there are the names: Wildfire, Spunkie, and the like. English literature is full of references to the false and delusive character and purpose of the lights. The "Poet of the Seasons," James Thomson, wrote long ago (describing a lost night-wanderer):

"Who then bewildered wanders through the
dark
Nor visited by one directed ray;
Perhaps impatient, as he stumbles on
Struck from the root of slimy rushes, blue
The Wild-Fire scatters round, a length of
flame
Deceitful o'er the moss; at other times,
Sent by the better genius of the night,
The meteor sits and shows the narrow path;
Instructs him how to take the dangerous
ford."

Sometimes the mysterious lights were trusted to work their will for the good of man. This aspect of

their character is reflected in the names of Spunkie (also), Friar's Lantern, Marsh Candles, Fairy Lamps, Our Lady's Candles, and St. John's Fire.

Alluding to this beneficent purpose of the lights, and their intent upon the good of mankind, the poet, Prosonby, says:

"The Spunkies dance o'er bog and fen
Luring to death unwary men;
Or else, beneficent they glide
To some sequestered meadow-side,

And by their flickering lanterns show
Where hoards of treasure lie below."

Be on the watch during this coming summer's fishing trips, and you may see these eerie lights; perhaps you have already seen them, or mayhap some of your friends have done so. The whole subject is one of great fascination, from the chemical, biological, literary, artistic, historic, mythological points of view. And last, but by no means least, although it is a real phenomenon, it is still a mystery.

Planting Fish—Fifty Years Ago

FISH SHIPMENT NOTICE.

W. E. MEEHAN,
Commissioner of Fisheries.

Commonwealth of Pennsylvania.



DEPARTMENT OF FISHERIES.
CRAWFORD COUNTY HATCHERY.

FISHERY COMMISSION.

JOHN HAMBERGER,
CHIEF
HENRY C. COE,
WELLBROD
ANDREW R. WHITAKER,
PHOENAVILLE
W. A. LEISERLING,
MAUCH CHUNK.

Conneaut Lake, Pa.

IMPORTANT!

TO APPLICANT:

Read this and following pages carefully. Follow directions strictly

OR FISH WILL NOT BE SENT.

Fill blank spaces on third page with pen and ink. Tear off sheet and return immediately to Superintendent.

UNLESS YOU NOTIFY the superintendent in this manner or by letter or telegram prepaid, the

FISH WILL NOT BE SENT.

READ NEXT PAGE.

CRAWFORD COUNTY HATCHERY,

CONNEAUT LAKE, PA. May 12, 1916

Mr. Charles C. Credit
Unity Pa. P. O.
County

DEAR SIR:

In accordance with your application on file at this station, I will on the
17 day of May forward to you 2 cans
containing Yellow Perch fry. They will be due
at Hackney Station, W & W
Railroad, at 3.03 P. M.

W. H. SAFFORD, Superintendent.

READ THIS!

IT IS NECESSARY FOR THE SAFETY OF THE FISH AND THEIR DELIVERY,

that you meet the messenger in charge, promptly on the arrival of the train, and unless you notify me by attached circular letter or prepaid telegram, that you or your representative will do so, the FISH WILL NOT BE SENT. Further, for the same reason it will be necessary for you to be at the station to receive the fish, otherwise they will NOT BE UNLOADED on the platform. As the CANS are needed at the hatchery to fill requisitions for other applicants, they MUST BE RETURNED PROMPTLY BY BAGGAGE after being emptied.

Every once in awhile a document concerned with the early days of Pennsylvania's fisheries activities is brought to light and sends personnel of the Fish Commission scurrying to the records.

The shipping notice duplicated here is the latest, and was sent along by Warden Burt Euliano of the Washington-Greene Counties' district.

When it was issued, what is now the Pennsylvania Fish Commission was called the Department of Fisheries and W. E. Meehan was the Commissioner of Fisheries. The Executive Director is today's counterpart of that position.

The Crawford County hatchery from which the notice was issued has long ceased to exist. It was established in 1907 at Conneaut Lake. According to the records, though the water supply was adequate the problem of getting it from the lake to the hatchery

ponds was never satisfactorily resolved, due to the flatness of the terrain there. This circumstance was a major factor in the decision to abandon the hatchery in 1912. Understandably, it was a warm water fishes facility, dealing mainly with bass.

As dim as the hatchery itself may be even in the memories of old timers, is the name of the railroad indicated on the notice. Records still maintained by H. R. Stackhouse, the Commission's administrative secretary, disclose W & W Railroad to mean Waynesboro and Washington Railroad, and undoubtedly because the two towns in Greene and Washington Counties, respectively, were its terminals.

It can only be observed that many changes have been wrought in the almost half century since that notice was issued.

—C. R. Glover

The Waters Ran Red

By AL WAGNER

In this instance the red waters were not the result of bloodshed in battle but from an overpopulation of red carp. Here is a story with a moral so let's go back to the beginning of it.

In 1947 a group of sportsmen in Cresson, Cambria County, decided to reorganize a long inactive club in their community. They incorporated in August, 1947. They began a search for a suitable location for a clubhouse and discovered an opportunity to buy a 70-acre tract of land located about two miles from town.

On the property was located a roadhouse which had been vacant for a few years but still in a fair state of repair. Also included on the grounds were the remains of what had once been a dam covering about 6 to 10 acres. The flood of '36 had wiped this out leaving a few remnants of the breast and a marshy area through which meandered one of the few fresh water streams in the area.



LOOKING UPSTREAM at drained area of dam.

Just below the remains of the old dam breast was what appeared to be a man-made bog. Actually this was the silt-filled remains of what had once been a commercially operated, gravel bottom swimming pool about 300 by 225 feet in size.

Door to door canvassing to sell memberships and bonds at \$5.00 each soon raised the \$3,500 necessary to purchase the land. Some paint, new roofing, a bit of lumber, soap and water and the application of considerable elbow grease resulted very quickly in a spacious and snug clubhouse.

Next on the agenda was the planning for the restoration of the dam to provide good fishing. This area is in the heart of the soft coal fields which has resulted in sulphur pollution of 90 per cent of local streams. Anything that would bring some good fishing to the



LOOK LIKE leaves or stones? All dead fish, 99 per cent carp.

people of the community was immediately welcome by them.

Not much more than a good stone's throw from the clubhouse lived Charles "Dutch" Lauver, head of the coal stripping firm, C. E. Lauver and Sons. Mr. Lauver was approached to get an idea of the cost of renting some of his heavy earth moving equipment to use in construction of the dam. He proved himself to be a very great civic minded and benevolent sportsman when he volunteered to donate the use of his equipment during a slack work period.

Added to this fine gesture was the donation of the use of about twenty trucks by various draymen, truckers and garage owners in the community. These were to be used in hauling materials to the construction site.

Work got under way with oftentimes as many as 120 community residents showing up on Saturdays and Sundays to do the labor entailed. Finally in early 1949 the job was completed. The water level of the old dam was raised so that about 20 acres were now under water.

The Pennsylvania Fish Commission was prompt in complying with a request for fish to stock. Bass, bluegills and brown bullheads were stocked in good numbers. By the following year anglers began to take numerous fair sized fish. Continued improvement in fishing was noted over the next few years.

Suddenly the fishing began to decline. Bass began to be scarce. Bluegills were stunted and small. Small crappies began to show up as new residents of the dam. About this time anglers began to report seeing

Red Fish" in the shallows. Rumors were quickly confirmed to the effect that several years earlier some of the members had sought to improve fishing and had unwittingly introduced some carp, crappies and suckers taken from nearby waters.

By the spring of 1956 the fishing was plain lousy and there was no doubt that the carp had taken over. When they moved into shallow open water to spawn, these areas were literally red with carp. By now the water was continually turbid from their activity on the muddy bottom.

The problem was discussed with Claude Baughman, district fish warden at that time. He suggested that we contact the biologists of the Fish Commission and try to arrange reclamation of the dam.

The initial problem was to install a drain pipe and valve which had not been provided in original construction of the dam. This work began in the fall of 1957 but had to be curtailed because of inclement weather when only half complete. Work was resumed in the spring of 1958 and shortly a 12-inch steel drain pipe and valve were installed.

Weather conditions in the fall were again abnormal so that plans for draining and reclamation were again put off. In the late summer of 1959 Gordon Trembley, chief biologist of the Pennsylvania Fish Commission, was contacted in the hope that the job could be done before the end of fall.

At this time the Fish Commission was about ready to begin the gigantic task of reclaiming 45 square miles of watershed area on the Department of Forests and Waters project to construct the 1,760-acre dam on the Prince Gallitzin State Park only 20 miles away. It was decided that while men, materials and equipment were nearby, it would be a propitious time to reclaim the Cresson Community Sportsmen's dam.

The job began by drawing down the dam to all but a narrow and shallow channel meandering through it. Seining under the supervision of newly appointed Cambria County Warden, Frank Kulikosky, began on Monday, October 12, 1959. At the end of the day not thousands, but tons of fish were removed. These consisted of suckers, white crappies, bluegills, sunfish, carp, bass and bullheads. Strangely enough very few carp were seined as they had retreated to that portion of the channel where seining was not practicable. The suckers ran to very good size and made up the bulk of the weight.

The numbers of stunted crappies and bluegills removed were prodigious. Not one good sized bluegill was found and only about 150 decent size crappies were taken. The stunting of these fish was mute evidence that the lake was decidedly out of balance.

What of the bass and bullheads? A few over 400 of each species were seined and placed in the nearby swimming pool to be held for later restocking in the dam. Probably not more than 100 bass over 9 inches

in length were recovered. The largest was a nice fish that measured 21½ inches and weighed an estimated 5 pounds.

Probably half of the bullheads recovered were from 9 to 16 inches long. A large proportion were in the 12-inch class.

Following the seining, crews started out on Tuesday morning carrying five-gallon back-pack sprays to retenone about five square miles of watershed streams and five farm ponds. A helicopter arrived in the late afternoon and sprayed the channel and mud flats of the drained dam. It was soon evident that the aerial spraying was not fully effective. The crappies, suckers



SWIMMING POOL in foreground. Refreshment stand and bathhouse, right center. Clubhouse to left of center.

and bluegills that remained soon succumbed. A great number of small catfish showed signs of distress but only a few carp showed just mild distress. It was therefore decided to follow up with concentrated spraying by hand and dumping of retenone in the dam area. That this was effective was soon proven for thousands of carp were churning the waters in distress and were soon floating dead or lying dead along the shore where they had sought to escape the toxic waters.

Accompanying pictures will give some idea of the area and the numbers of trash fish killed.

Two weeks later a heavy rain flushed the mud flats and the dam was filled, drained and refilled. The fish held in the swimming pool were recovered and stocked in the dam. To these will be added additional breeding size bass and a stocking of black crappies. The club members, with fingers crossed, look forward to excellent future fishing for the public.

Oh yes—at the beginning it was said that this story contained a moral. Here was an object lesson in what can happen as a result of ill advised and unauthorized stocking of a fishing area. The short span of ten years saw a 20-acre dam provide, for a few years, some very excellent fishing and then as quickly be ruined by the presence of carp and too many species of pan fish.



NEW THINGS in TACKLE and GEAR

Intended as a service to ANGLER readers wherein new items of fishing tackle and outdoors gear that come to the attention of the editor are introduced, with no intention of endorsement.

Address all inquiries to the respective manufacturers.



Electric Socks

Warm feet, regardless of cold. 100% virgin gray wool with nylon reinforcement, they work like tiny electric blankets—allow freedom of movement, no wires to walk on. Work on standard lantern batteries. Men's sizes, 10, 11, 12, 13. Ideal for Ice Fishermen, Hunters, Skiers.—**Ogden Manufacturing Company, Chicago.**



Minno-Therm

The minnow bucket that resists the heat of the blazing sun the cold of deep freeze. Keeps minnows alive and swimming for days. No need to change water. It floats, can't sink.

Ideal for the ice fisherman. Minno-lift aerates water while in use.

Many other uses: beverage cooler, ice bucket, boat luncheon. Keeps food hot or cold.—**Plastilite Corp., P. O. Box 35, Ames, Sta., Omaha, Nebr.**



Notes From the Streams

Lake LeBouef Producing

Jerry Ester, of Waterford, thought he had caught the biggest walleye in Lake LeBouef when he landed a 11¼ pound 31 inch walleye. However he was wrong, for a moment later he hauled in a 13 pounder. He was further astounded to see another fisherman pull in a walleye that measured 25½ inches.

—Norman E. Ely, Warden, Erie County

Return to Paradise

By the looks of the cars parked on either side of the road near the Warren airport on the Allegheny River one would think that a new fisherman's paradise had been discovered. A check of creels and size of the fish, especially the walleye, seems to indicate that such is the case.

—Kenneth G. Corey, Warden, Warren County

Fall Fishing

As usual for this time of year the natives of this area are taking some beautiful smallmouthed bass and walleye from the North Branch of the Susquehanna. These fellows don't worry about sunstroke, flies, or motorboats. They put their boats on the river about October and fish until the river freezes over. It's not unusual for a fellow to catch his limit of both bass and walleye in one day.

—Stephen A. Shabbick, Warden, Wyoming County

Good Fishing or Just a Good Fisherman?

While waiting for a truckload of fish on Glade Run Lake I checked a fisherman who had quite a creel of bass, some long as 19 inches. He told me that since October he had caught over fifty bass.

—Clifton E. Iman, Warden, Butler and Beaver Counties

Bad Weather—Good Fishing

Bad weather has slowed down fishing in Tionesta Creek from the tunnel outlet of Tionesta Dam to below where empties into the Allegheny River at Tionesta. Those who braved the weather have been having good luck in catching walleye and muskies. This is a good way to end the season.

—Norman L. Blum, Warden, Forest and Clarion Counties

We Get Letters

In the November ANGLER I saw your note on striped bass returning to the Delaware and I thought I would tell you an experience my husband and I had a few weeks ago. Fishing the Delaware just below the Fairless Steel Mill on the Pennsylvania Manor side we caught two stripers, one 15 inches and the other 10 inches, both on worms. Fishing was very good that day and we also caught a nice mess of white perch. I certainly enjoy the items in the ANGLER, keep them coming.

—Mrs. Horace Evans, Southampton, Pa.

The Fish Warden—A Profile

By JOSEPH KENNEDY

All of us, at one time or other, has seen the cartoon or heard the story about the fish warden apprehending the fisherman in the act of breaking a law. In most if not all cases the warden is portrayed in a humorous vein as the villain, and the fisherman as the innocent victim of circumstance. This type of picture has hurt the warden in that it undermines the public respect for what he represents. In effect it does injury to a service that is doing an important job in guarding a natural resource and the outdoor sport it provides. Consider for a moment the reckless waste, destruction and confusion that would result in recreational fishing and boating if the wardens were not on duty.

First of all let us rid ourselves of the idea that the fish warden is some sort of outdoor policeman. True, police work is part of his job, but just a part. He is in reality, a law enforcement officer, a conservationist and a teacher. Many of these duties overlap and supplement each other but each requires separate skills.

His work in the law enforcement field consists of enforcing the state's laws concerning license, creel and size limit, season, prohibition against fishing in certain areas, the use of certain illegal tackle, motorboat license, operation, etc. In addition he acts as a prosecutor before the justice of the peace in cases of fish law violation. At this juncture his police work takes on its most important aspect. Because it is on the basis of how he presents his case to the justice of the peace that depends the effectiveness of fish law enforcement.

He is a conservationist in that he works to protect streams and lakes of the Commonwealth against pollution that results in fish kills and endangers our water supply. The patrols he makes of state waters aid the Sanitary Water Board, the agency that has primary jurisdiction over water pollution, in enforcing the laws on this matter. He also assists in stocking streams and his advice on stream and lake improvement is an important adjunct to his conservation work.

His teaching duties arise when he is asked to speak before one of the local sportsmen clubs to explain Commission policy or to give a slide lecture to a school group. These public appearances help to promote outdoors sportsmanship and greater regard for preserving our natural heritage.

These are all part of his duties.

From what background are members of the warden force drawn? What are the requirements? To begin with, the applicant for Pennsylvania Fish Warden

must be between 21 and 39 years of age, stand 5 feet 8 inches tall and weigh at least 150 pounds. He must be sound physically and mentally. He must bear good reputation in his community and never have been arrested. He must be a graduate of a high school and pass a written and oral examination in such subjects as arithmetic, history, geography, English, spelling, writing, science, fish and game laws, and wildlife problems. In addition he must be a resident of Pennsylvania for at least two years preceding the date of application and agree to work in any part of the state designated by the Fish Commission.

When a vacancy occurs, a successful candidate is put on a year's probation. His training begins under the direction of a warden supervisor who instructs him in paper work (reports, etc.), Commission policy and law enforcement procedure, especially in preparation and handling of a case before a justice of the peace. After several weeks with the supervisor he is placed with an experienced warden for actual field work. The Commission applies the theory, "learn by doing." Additional training is given to the warden trainee by the fishery manager in stream survey, stocking, census and other activities. At the end of a year, if he has done an acceptable job and shows promise he is appointed warden and assigned to a district.

The training of the fish warden never ends. During the winter of 1959 eighty-five per cent of the warden force enrolled either with the United States Coast Guard Auxiliary or the United States Power Squadron, for additional training on boat handling and seamanship. Each fall the wardens assemble at Pleasant Gap for in-service training. Instructors from the Pennsylvania State University and instructors from other agencies and the Commission staff make up the complement of teachers.

At this time they are brought up to date on Commission policy, and changes in the laws. Also important is the discussion on the latest technical and scientific matters relating to fish life.

The warden force is a uniformed armed service (although by the nature of the work uniforms are used sparingly and prudence is the watchword wherever firearms are concerned) that patrols the public streams and lakes of the 67 counties of the state. A warden is responsible for one or more counties, depending on the size of the counties involved. For administrative purposes the state is divided into six regions with a warden supervisor in charge. In this way closer headquarters-field relations are maintained.

In relation to the amount of time put in by the warden, compensation is very modest. A warden's starting salary is \$3,925 with annual increase to \$5,007. A supervisor has a maximum salary of \$7,772. Each warden receives a small allowance for travel and expenses. All wardens are on call 24 hours a day summer or winter, fair weather or foul.

During the fishing season the work is very apparent. But what about the rest of the year? Well, during the fall and winter he aids the game protectors of the Game Commission (they return this cooperation in the spring and summer), patrols ice fishing areas, keeps an eye out for polluted waters and makes public speaking appearances whenever asked, and he is asked often.

The fact that only five per cent of all cases prosecuted last year were lost gives some indication that the wardens are doing the job. It also might be added that to date the fish wardens have settled sixty pollution cases out of eighty-two and it was only necessary to make five prosecutions. The remaining cases are still pending.

No count has been made on the number of public appearances made by the warden force nor is there any way of measuring the part they have played in conservation education in the state. However, it is reasonable to state that they have made an important contribution in this area.

This then is the fish warden, policeman, conservationist, teacher. An unbeatable combination for conservation in the Commonwealth.

Speed Limit on Fishing

Let's face it, fellows. When a big bass decides to clobber a lure, he's reached a momentous decision. He's concluded that this plug is something mighty good to eat or arouses his ire to the point where he just can't resist knocking it to smithereens. And somehow it looks different than all those hook-laden bits of plastic or wood that have been skittering overhead all day.

Why does one offering suddenly produce a strike when the same lure presented by another angler gets the bum's rush? There are many reasons, says the Mercury Outboard Company, but one stands out in importance—speed of retrieve.

A speedy lure is not always the fastest way to a heavy stringer. In fact, it's the reason why a percentage of today's anglers are regular patrons at fish markets.

This applies to any type of technique used, whether it be spinning, casting or fly fishing. And it applies to bugs, top-water lures, shallow runners, or live bait.

Let's consider the proven jig and eel method which works so well on deep impoundments. There's just one rule to follow: fish slow. And slow means letting the lure sink to the bottom, rest 10 or 20 seconds or longer, then giving it a twitch. If nothing happens, pull the lure in about a foot, then stop for another 10 seconds. Continue this pattern until it reaches a point directly under your boat.

If this doesn't produce a strike, little else will. There are certain times when fishing breaks loose and anything scores. But these periods are rare. So slow your fishing down. It takes patience, but few stringers are filled by the guy who looks like a windmill when he's casting.

You Can Always Tell a Fisherman

(But you can't tell him much)

by **COREY FORD**

159 pages. Illustrated by Walter Dower, with cartoons by William Steig. Published by Henry Holt and Company, 383 Madison Avenue, New York 17, N. Y., 1958. Price \$2.95.

In a series of breezy and loosely connected stories based on the minutes of The Lower Forty Shooting Angling and Inside Straight Club, Corey Ford both relaxes and entertains his reader with one heartwarming and amusing incident after another. Author Ford, who serves as secretary for the fictitious club, describes the group as a thoroughly disreputable organization whose members are given to deserting their families on weekends in order to fish for Minnow Brook or shoot rats at the village dump in their Sunday best or imbibe . . . on a jug of Old Stump Blower and prevaricate about their piscatorial prowess!!

Incidentally the charter and only members of the group in no order of importance are, Cousin Sid, Doc Hall, Uncle Perk, Judge Parker, Mister MacNab and Colonel Cobb. A crustier group never was assembled.

The setting for the misadventures of the Lower Forty is the mythical town of Hardscrabble. Most of the action or lack of it takes place in the field and stream or in the back room of Uncle Perk's store located in the area.

Readers who have been introduced to the author's short stories in *Field and Stream*, *The New Yorker* or *Saturday Evening Post* will need no inducement to partake of the company of this likeable group.

FISHING REGULATIONS

OPEN SEASONS, SIZES AND CREEL LIMITS

1960

The fishing regulations for 1960 including open seasons, sizes, and creel limits set forth in this booklet apply to the inland waters of the Commonwealth, the Delaware River, the Conowingo Reservoir, the Youghiogheny Reservoir, Pymatuning Reservoir and Lake Erie. They have been established and fixed on July 13, 1959, by the Pennsylvania Fish Commission by authority of act of May 2, 1925, P. L. 448, Section 251, as amended, and Act 219, signed June 28, 1957, as amended and revised by H. B. 959 passed by the 1959 General Assembly. Penalties for violations are as provided in the Pennsylvania Fish Laws.

The following regulations and laws apply to . . .

INLAND WATERS

SEASONS, SIZES AND CREEL LIMITS

Species	Season	Size	Number (one day)
TROUT except Lake	5:00 A.M., April 16 to Midnight, Sept. 5 (Rainbow Trout only in lakes and ponds to Oct. 31)	Minimum 6 inches	8 (combined species)
TROUT Lake	5:00 A.M., April 16 to Midnight, Oct. 31	No minimum	8
BASS Largemouth Smallmouth	Jan. 1 to Midnight, Mar. 14; June 15 to Midnight, Mar. 14, 1961	Minimum 9 inches	6 (combined species)
PICKEREL and WALLEYE	Jan. 1 to Midnight Mar. 14; June 15 to Midnight, Mar. 14, 1961	Minimum 15 inches	6 (each species) 2 walleye only through ice
MUSKEL-LUNGE	Jan. 1 to Midnight Mar. 14; June 15 to Midnight, Mar. 14, 1961	Minimum 30 inches	2
PIKE Gr. Northern	Jan. 1 to Midnight, Mar. 14; June 15 to Midnight, Mar. 14, 1961	Minimum 20 inches	6
PAN FISH Sunfish Bluegills Yellow Perch Crappies Rock Bass Catfish	Open year around	No minimum	25 each 50 combined
BAIT FISH FISH BAIT	Open year around	No minimum	35 each 50 combined

The following regulations and laws apply to . . .

CONOWINGO RESERVOIR

on Lower Susquehanna River

and

YOUGHIOGHENY RESERVOIR

on Youghiogheny River

between

Pennsylvania and Maryland

SEASONS, SIZES AND CREEL LIMITS

Species	Season	Size	Number (one day)
BASS Largemouth Smallmouth	Open year around	Minimum 9 inches	5 (combined species)
TROUT all species	April 15 to March 15, 1961	Minimum 7 inches	5
PICKEREL	June 1 to November 30	Minimum 14 inches	6
WALLEYE	April 1 to November 15	Minimum 14 inches	6
PIKE Gr. Northern	June 1 to November 30	Minimum 20 inches	6
STRIPED BASS (Rock)	Open year around	Minimum 14 inches	No daily limit

The following regulations and laws apply to . . .

DELAWARE RIVER

between

Pennsylvania and New Jersey

and

Pennsylvania and New York

SEASONS, SIZES AND CREEL LIMITS

Species	Season	Size	Number (one day)
BASS Largemouth Smallmouth	Open year around	Minimum 9 inches	6 (combined species)
TROUT all species	April 15 to September 30	Minimum 10 inches	5 (combined species)
WALLEYE and PICKEREL	Open year around	No minimum	6 (each species)
STRIPED BASS	March 1 to December 31	Minimum 10 inches	No daily limit
BAIT FISH FISH BAIT	Open year around	No minimum	35 each

The following regulations and laws apply to . . .

LAKE ERIE

Presque Isle Bay and Peninsular Waters

SEASONS, SIZES AND CREEL LIMITS

Species	Season	Size	Number (one day)
BASS Largemouth Smallmouth	January 1 to Midnight, March 14; June 15 to Midnight, March 14, 1961	No minimum	6 (combined species)
PIKE Gr. Northern	Open year around	Minimum 20 inches	6
MUSKEL-LUNGE	Open year around	Minimum 30 inches	2

The following regulations and laws apply to . . .

PYMATUNING RESERVOIR

SEASONS, SIZES AND CREEL LIMITS

Species	Season	Size	Number (one day)
MUSKEL-LUNGE	Open year around	No minimum	No daily limit
BASS Largemouth Smallmouth	Open year around	No minimum	No daily limit
WALLEYE and PICKEREL	Open year around	No minimum	No daily limit
MINNOWS	Open year around	No minimum	500

FISH IN POSSESSION

(including boundary waters except Pymatuning Reservoir)

The number of fish in possession at any time, including fish bait and bait fish, may not exceed the fixed daily limits when taken from boundary waters.

Further, the possession of charr, commonly called brook trout, and any species of trout except lake trout caught during the lawful season from the open waters of the Commonwealth may not extend beyond ninety (90) days after the expiration of such seasons.

All species not specifically listed are classed as food fish and may be taken at any time of year, in any number or size, by approved means as set forth in the Pennsylvania Fish Laws, except that rough fish or trash fish, when so designated by the Commission may be taken with such devices and under such regulations as the Commission determines.

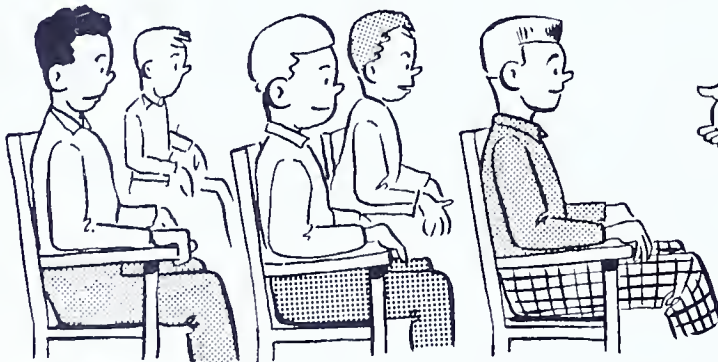


"HOWDY,"

THE GOOD OUTDOOR MANNERS RACCOON,
SAYS :

IF WE WANT BETTER FISHING, THEN WE MUST HAVE BETTER FISHERMEN ... AND THE BEST PLACE TO START IS WITH OUR YOUTH ... LET'S ALL WORK ACTIVELY IN GROUPS LIKE THE BOY & GIRL SCOUTS, Y.M.C.A., F.F.A. ETC...

TEACH & ENCOURAGE
GOOD CONSERVATION
PRACTICES, GOOD SPORTSMANSHIP &
GOOD OUTDOOR MANNERS... THE VERY
BEST TEACHING METHOD IS BY YOUR
OWN EXAMPLE... AFTER ALL, YOU CAN'T
EXPECT KIDS TO DO SOMETHING THAT
YOU DON'T, OR WON'T, DO YOURSELF...



Water :
EROSION

CONDUCT CLASSES TO EXPLAIN
THE PROBLEMS THAT EXIST...
THEN

...**TAKE THE KIDS OUT IN THE WOODS AND ALONG THE STREAMS...**
GET THEM WORKING ON APPROVED CONSERVATION PROJECTS LIKE
STREAM IMPROVEMENT & CLEAN-UP, EROSION CONTROL, ETC. ETC..



JOHN F. CLARK - 4

PENNSYLVANIA
Angler

P38.31
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c.1



February 1960

LIBRARY

Editorial...

Tell the Story

Perhaps the time is here to start telling some oft-told stories. Conservation is no longer a babe in the woods. It has come of age in the last 20 years, and a lot of people have been involved in this work for a long time. During the "revival meeting" days of conservation the basic principles of wise resource use were repeated so often that many of us had them committed to memory. Most of the material seen and heard now deals with more sophisticated aspects of conservation—projects built on the foundation stones of basic precepts. This material assumes a knowledge of conservation fundamentals. Maybe we should not make this assumption.

A school principal would not devote full time to developing a good primary department in his school, operate it a couple of years and then abandon it while all effort and money go into the secondary grades. This would provide a few lucky students with a full treatment, but would neglect many others. It is necessary for conservation material to reflect the technical advances that are being made in the field almost daily, but it is also our responsibility to not neglect the "primary grades." You expect a medical journal to include only the latest, most advanced and most technical material available. But on the other hand there are a lot of high school teachers still talking about amoebas, and many frogs still end up on wax dissecting trays in laboratories.

Agreed, once you have learned the fundamentals of conservation it may be boring to see them repeated endlessly. But maybe we could risk boring some people to catch more converts, and above all, to catch the youngsters. Perhaps we should re-tell the basic arithmetic lesson that one rabbit plus one rabbit in good habitat in the spring, equals 10 rabbits in the fall. And that 15 pheasants stocked on poor range in the spring equal no pheasants in the fall.

How long has it been since I've seen a high-speed photograph of a rain drop striking bare soil? I will never forget this miniature explosion, that blasts soil particles into suspension and starts them on a ride that ends in the Gulf of Mexico. But what of the eyes that have never seen the picture? This rain drop is basic, to my way of thinking, to an understanding of trash-mulching and other commonly-used terms today. Just as basic to good hunting, is the rabbit and pheasant arithmetic.

Learning that one plus one equals two is all right when it comes to adding up your grocery bill or figuring out gas mileage on your car, but we haven't yet been able to get wild animals to conform to these rules. This is fundamental stuff—ground that has been well plowed. Yet, you will find people who expect pheasants to perform as regularly and predictable as the speedometers on their automobiles, sometimes on areas where the birds cannot even live let alone reproduce.

Everyone, of course, cannot become a biologist, and we have made great advances in conservation education and making people aware of the importance of wisely using natural resources. But let us not forget the newcomers, whether they be converts or youngsters. Let us re-tell the fundamentals; the basic conservation stories.

—Rod Cochran in—"Ohio Conservation Bulletin"

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JOHNNY NICKLAS, Photographer

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THE COVER: Flies in February

Photo by Johnny Nicklas

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SPIN YOUR OWN FLIES

It took man a million years to learn the principle of the lathe and now, even the stubborn fly tyers are yielding to this basic principle.

By RAY OVINGTON



THE MISSUS, yours truly and a friend watch the simple magic at the New York Sportsman's show.

For years I was one among you who tied flies the hard way, that is by laboriously turning the material around the hook shank rather than doing it the easy way by making the hook shank revolve instead.

It took an ingenious bunch of boys up in Massachusetts to come up with the age old principle of the wheel and adapt it to the task at hand, namely eliminating the time consuming and often very inaccurate method of hand turning around a stationary vise.

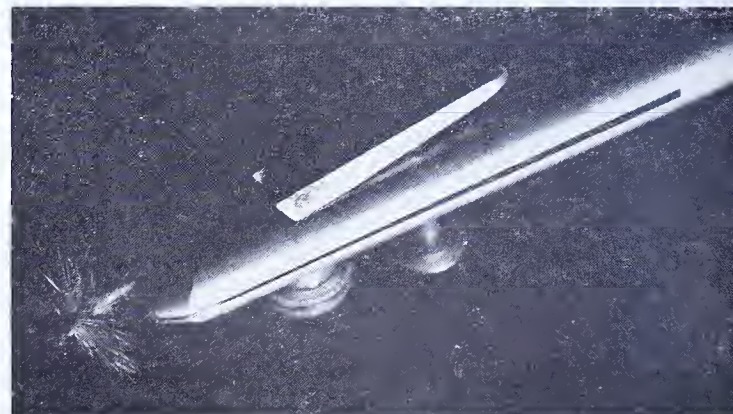
From the very beginning, when the vise was still in its formative stages, I have been in on its birth. When the final versions went to all the friends we had a ball turning out flies in half the time as before and flies that were twice as good.

There is good reason why this system works, the same good reasons why lathe operation in making furniture, makes sense. It enable you, in the case of fly tying, to wrap evenly and with the exact tension required for the specific job at hand.

For instance, suppose you want a really well balanced body wrapping for a streamer fly. Instead of wrapping by hand, you can now hold the material in the right hand and as the material rolls on, untwist it so that it folds on flat. When it comes time for the tinsel, there is no effort in wrapping it on uniform.



WHEN YOU wish to turn over the fly, just revolve the vise instead of taking out the fly and reversing it.



REVOLVE IT instead of turning hand springs.

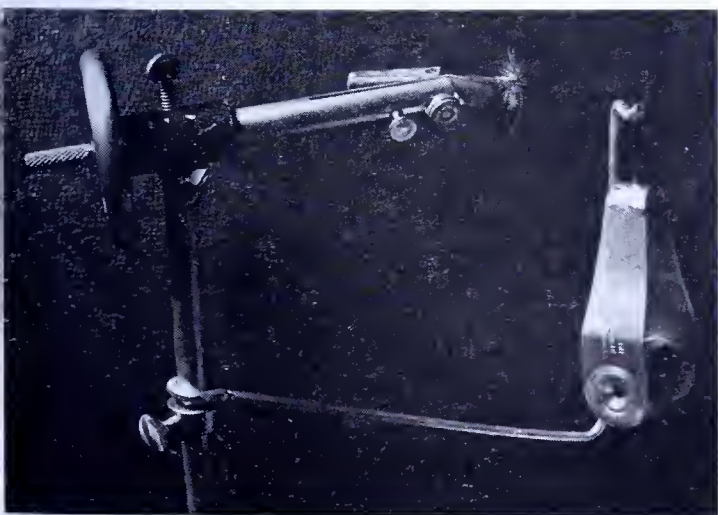
In tying on a fur body for a wet fly, dry fly or nymph, there is no need for the old style elaborate preparations. You simply wax a portion of the tying thread, grasp a wisp of fur and twist it on the waxed thread as it is fed on to the revolving hook and presto . . . an evenly spun fur body!

Dry fly hackle is perhaps the most dramatic proof that the revolving principle is best. The hackle is rolled on evenly and you will note that the feather turns vertical to the hook when it is so pressurized and that there is no unevenness of tension when the hackle goes on, therefore the hackles point out vertically and stiffly whether you wrap over or palmer the fly. A rank beginner can hackle a dry fly in less time than it takes to write about it.

There are many advantages to the system, one being the instantly revolvable bit when you want to turn over the fly to work on the underside. No need to take it out of the vise, merely spin to the desired position. If you wish to view the fly head on, merely turn the vise on its pole axis and there you are!

With the vise comes a material loader, or bracket for hanging the thread bobbin. A material clip can be used on the shank of the vise when you have attached a number of ingredients to be handled separately, one by one. The hackle pliers shown in the photos are flat bed, so that they will not cut the hackle.

It has been the writer's pleasure to instruct thousands in the fly tying hobby and since the advent of this piece of equipment it is possible for a rank beginner to tie a Royal Coachman the first night and



THE BASIC set up of revolving vise, holder and bobbin.



FLAT BED hackle pliers do away with broken tippets.



FULL BOXES of flies attest to a happy evening or so of tying with modern equipment such as shown on these pages.

the quality is often as good or better than the store bought variety.

In demonstrating this vise to the old guard, even they have to admit it is really something.

New Guide to Poconos

Just off press is a second edition of "The Poconos—An Authentic Handbook and Guide to Pennsylvania's Vacationland." Written by Thomas H. Knepp, the 145 page handbook is profusely illustrated in both color and black and white. It contains complete descriptions of points of interest throughout northeastern Pennsyl-

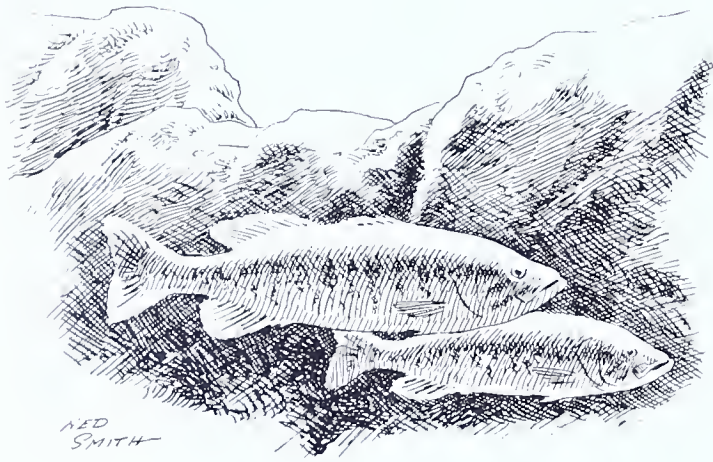
vania, including a history of the region, summer camps, winter resorts and skiing plus much information on hunting, fishing, wildlife and natural attractions. The booklet sells for \$1.25 postpaid and may be ordered from Thomas H. Knepp, 706 Scott Street, Stroudsburg, Pa.

Bass Have Their Ways

By FRANK STOUT

Most fishermen would have been polite and laughed quietly up their sleeves if they'd seen the fisherman carefully pitching a spinning-size surface plug across a narrow stretch of the North Branch of the Tunkhannock Creek where it winds through Nicholson, not far from the Lackawanna Railroad's towering cement viaduct. Even this quarter-ounce plug looked monstrous on so small a stream.

But perhaps Dave Nichols of Factoryville in Wyoming County, had a premonition—some prescience of things to come—as he methodically worked along the mossy banks of the stream near what is often called one of the engineering “wonders of the world.”



Whatever gift of foretelling he had, Dave was right because a five-pound smallmouth virtually swallowed that surface plug and made the water boil before the net was finally slipped under its ample belly.

For this and other equally or nearly as good reasons, I've been back to that stream many times—early in the morning, late in the evening, at midday, and even at midnight when casting was done by “feel” in a silent, enveloping blackness; sometimes using only the blacker outline of the far shore as a “target.”

There never is any plan to the way the bass hit there—sometimes early in the morning, with fragments of mist still clinging to the surface of pools; sometimes in the frustrating blackness of a moonless night. I just get there whenever I can and hope it coincides with the feeding time of those bass. This has been going on since three years ago, when the Fish Commission transferred smallmouths from Lake Erie. They took hold, grew fat and sassy and spawned along the gravel

stretches that mark the stream's course through Wyoming County.

When the yellow drake and white caddis appear on the “Tunk” in late June and early July, these smallmouths often stage spectacular feeding sprees that are an astonishing sight to see. And the fly-fisherman who can work into the hatch with even a crude imitation has a busy, exciting time.

While the bass in the North Branch Tunkhannock are unpredictable, another fisherman—Don Hollister, also of Factoryville, has found those in the Susquehanna River only seven miles away, just below Tunkhannock, to be creatures of habit.

Here, Don wades the shallow water areas in the evening hours, casting flies originally tied for trout in such well-known patterns as light Cahills, ginger quills and black ants. If the sun is above the hills that frame the river, the answering smallmouths are small but willing. Then, almost as though they are adhering to some mysterious order of nature, the fish come larger and larger as daylight wanes—until finally, just before total darkness, big firm-sided smallmouths start hammering away at the fly imitations. Don has caught many that range from 16 to 18 inches in length and each one strains the light fly tackle to its limit. By the quantity of light in the evening sky, Don almost can predict the size of the bass that will strike next.

Shifting the species to largemouth and the scene to Lake Kewanee, on the edge of Lackawanna County, I've found that in this exceptionally clear water the fish feed almost exclusively at night, unless the angler seeks them in 25 feet of water on deep-running plugs during daylight hours. But daylight catches are rare. These Kewanee largemouths show a very distinct preference for the all-white deer hair bugs fished slowly smack in the middle of lily pads and reeds. And it's no mean trick to hang on in these weeds when one is hooked.

Another favored lure was designed by Charlie Foster, noted trout and fly fisherman of Carlisle. It's a spinning plug of Gettysburg cedar which is left natural under a clear lacquer finish. One attraction of the natural cedar color and grain, according to Charlie, is the similarity in these regards to the crayfish on which the bass feed heavily. And if I needed proof, three bass I caught from Lake Kewanee last summer had crayfish in their

But what bass there are to be caught in my part of

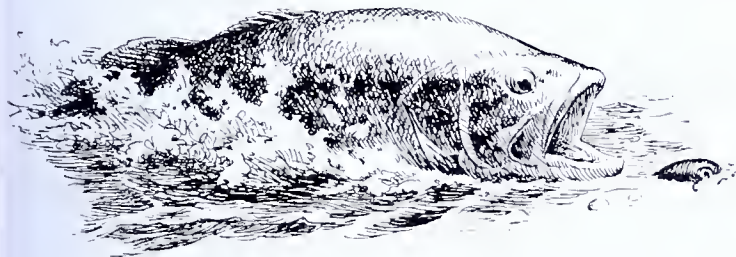
the state and what my friends and I do and know about them matters little to others. It's what *they* know of bass, and more particularly about those in local waters and what they know of the waters, that counts. Such knowledge and perseverance in its application by more fishermen will result in the "discovery" of many other good bass waters. With this in mind, in addition to what has been written earlier, consider the following items:

Item One.

Ever try a surface popper in the wondrous early morning on a bass lake when the mist is as thick as wool on the surface? Largemouths seem to demand commotion at this time. Perhaps the soupy morning mist obscures their vision and they strike at the noisy fuss created by the popper. Let the popper rest a minute or two after your cast. Then twitch it gently two or three times. If nothing happens, begin a noisy, deliberate retrieve in which you jerk the popper along with sharp tugs on line and rod tip. Sometimes the persistent gurgling of the popper will turn the trick. This is an effective method on the quiet pools and backwaters of the Susquehanna River between Sayre and Tunkhannock. Bass cruise these placid waters trying to trap minnows and crayfish and a noisy surface popper often gets them off the track.

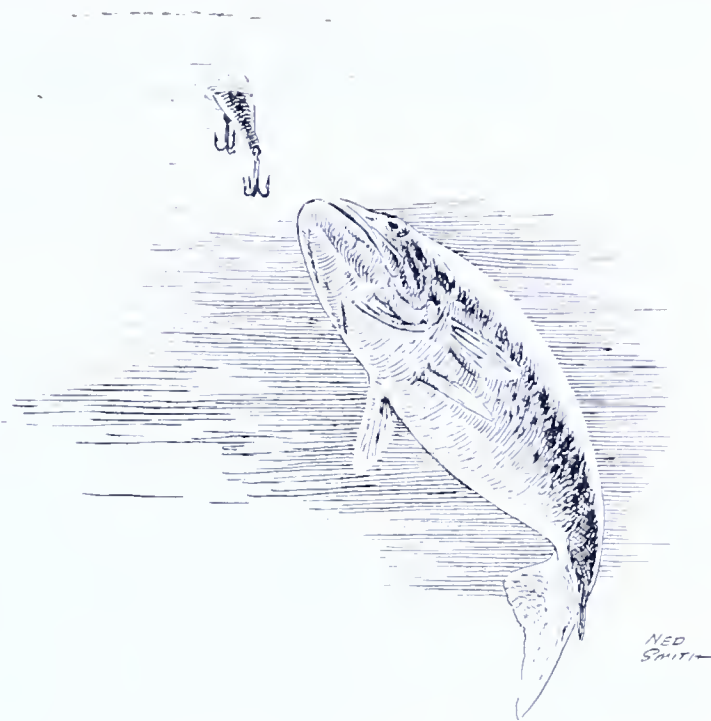
Item Two.

If you live near a pond that bustles with swimmers and boats throughout the day and early evening hours, you know it's a frustrating task to stir up the interest of a bass. But did you ever slip out on that pond quietly at midnight? All you'll likely hear from the shore will be an occasional slam of a cottage door or the scattered echoes of voices from a late party. This is the time really big largemouths are likely to feed. Don't pass up the boat docks and the wharves. Plunk a noisy surface plug near them close to the shore.



Let your lure rest a full minute, then retrieve in a line parallel to the wharf. Make it gurgle and plop. And be ready for a quick fight if you would keep your hooked bass from tangling in the wharf pilings.

There's a magic in nighttime fishing you'll find at no other time. You'll be surprised at how quickly your eyes become accustomed to darkness—so you can see the wharves, the black curve of a shoreline, or the rim of a patch of lily pads; even the bats that wing perilously close. And you're alone in a kind, pleasant solitude. And when your hook has struck home in a strong, heavy bass, you have a strange, new but ex-



citing kind of fight on your hands. Now, more than ever before, you must sense the "feel" of the fight in your rod. You can't see the line, you can only feel its tautness through the tender tip of your rod, or hear the friction hum of your reel drag, as the bass gains on you.

Item Three.

If you have a lake nearby that's convenient to fish when you have only a couple of hours, but you ignore it because it's "fished out," ever think you might be missing a good bet? How well do you know that lake? Do you know where the sharp dropoffs and ledges are? Its deepest holes? Why not take those couple of hours some day and really "explore" that lake—really get to know it. It's a fairly simple job.

Get yourself at least 50 feet of line—a good, limp cord. Monofilament is too difficult to see. Now mark it every foot, or two, if you prefer. There are several ways to do this so use your own ingenuity. You can tie on tiny plastic discs, for one thing. Make them rounded so they won't snarl the line when you wind it on a small piece of wood. On the end, tie a lead weight. A fairly heavy sinker will do.

Now you're ready to "explore" that lake you know so well. Start from shore and "sound" for the bottom as you go along, stopping every four or five yards to lower your weighted line. You'll find the steep drop-offs this way and the holes—or the concealed shallows. Be sure you mentally mark your "discoveries" by using cottages, docks or prominent trees as landmarks. Keep repeating this process around the lake until you know its bottom contours like the back of your hand. This "exploring" is fun in itself. Often, where you expected to find deep holes, the water may be 10 feet or less in depth.

But the dividends from your "exploring" come later. Go back someday to one of those holes you found and

fish with a live minnow, three or four feet off the bottom. Those "fished out" ponds may surprise you now that you've "discovered" the deep resting places. And your "exploring" also will tell you where to use deep-running lures.

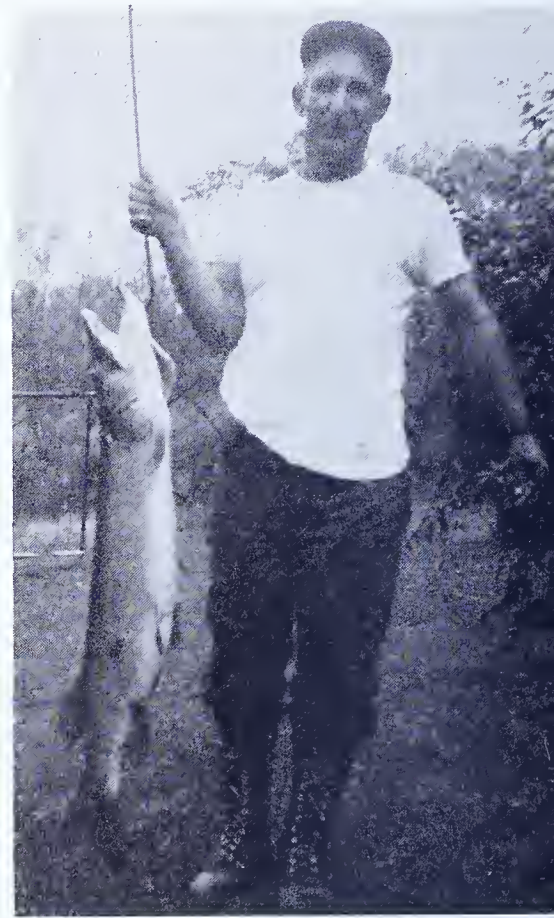
Yes, bass have their ways. Whether in a stream or

pond or river or lake, bass, like all living things, must adapt themselves to the environment. And let a fisherman learn their ways and those environments and he will be well on his way to a lot of good bass fishing while his less inquiring buddies are leaning on the "no fish" lament.

A Fine Pair...

... of Shenango River muskellunge. The one on the left with Edgar Schaller of Clark, measured 37 inches and weighed in at 18 pounds.

It took his Marathon bucktail spinner on a casting rod last September, virtually in Schaller's back yard. The one on the right was posed by Bob Young, also of



Clark, a few weeks later and measured 47½ inches and weighed 25 pounds. Young turned the trick with his musky above Sharpsburg. Anyone for moving to Clark?

Tired of Being an "Early Bird"?

If you're not an "early bird" when going fishing, don't be too concerned about not getting the worm ... er, a string of fish, that is.

Getting up early frequently makes the difference between catching fish or not, comments the Mercury Outboard Company, but sometimes it can be just a waste of time and the loss of precious sleep. This is especially true with the approach of cool weather and lower water temperatures.

Much of this, however, depends upon the type of fish you seek if you take this advice on a year around basis. For instance, surface-striking fish such as muskie, bass, trout and salmon usually take to feeding in the shallow areas early in the morning or at dusk or later. Species that remain in the depths, such as lake trout

and walleye, are less particular about when they eat and show no discrimination toward the midday fisherman's offerings.

But during winter months, all fish become leechy, and will gobble a tasty morsel whenever the opportunity arises. The reason for this switch in tactics lies in the fact that the bountiful summer harvests are over. The food supply, once so plentiful, has declined to a point where game fish are feeling pangs of hunger.

Thus fall, as in spring, is the time to forget the "early bird" hours. Instead, crank up the outboard and troll slowly around the shoreline. You'll find fish of all sizes ready and willing for your plugs, and by covering plenty of water, you stand a good chance of connecting with some really big fish.

The Questionable Quillback

By DON SHINER



THE MYSTERY FISH resembled a cross between a sunfish, shad, sucker and carp. The first ray in the dorsal fin was nearly six inches in length. It was identified as a quillback sucker, a fish not found abundantly in Pennsylvania.

A cold monochrome sky had blanketed most of Pennsylvania for several days. Predictions were of a coming snowfall. Sheets of ice formed along the river's edge. Disregarding the unfavorable conditions, two anglers, bundled in woolens, stepped aboard their waiting craft and prepared to start a mile-long float trip downstream. Time was mid December, a few days before the arrival of Christmas. The location was the North Branch Susquehanna River.

The two anglers, Alvin Franklin and his wife, from Beach Haven, Pa., had become accustomed to fishing the Susquehanna River in the Wyalusing area, after many years of cottaging in that region. In fact, for this team, angling is almost a "round-the-calendar" sport, an activity to be pursued until cold weather clamps a lid of ice across streams. Even then, they frequently enjoy ice-fishing outings on neighboring ponds.

Fishing this past autumn and early winter was unusually good. The Franklins racked up many real tackle breaking size smallmouthed bass throughout October and November. Large catches of heavy walleyes were also caught in that region of the Susquehanna River. And it was on this particular day, barely a week before the New Year was ushered in, that the Franklins caught seven husky walleyes in the after-

noon, and another husky five-pound, 24-inch fish which they could not identify.

They were drifting down river, spinning C-P swing spinners shoreward and retrieving the lures close to the bottom. Hits came slowly as commonly experienced during the cold autumn months, but what fish hit were lunkers in size. One cast directed by Mrs. Franklin toward an exposed slate rock produced an immediate strike. It felt as though she hooked a log. However, suddenly the log became very much alive. Upstream it zoomed, then just as quickly it turned, darting across river with the swiftness of an arrow, making a large circle around the boat. Minutes passed. There was no weakening in the fish's strength. Slowly it began to give ground. It was with a sigh of relief when he scooped the landing net beneath the huge fish and lifted it aboard. But close examination only heightened their puzzlement at the unusual fish. It was not a walleye which they first visualized. Nor was it a bass. They, and several other fishermen encountered farther downstream, could not identify the specimen.

Truly it was a beautiful fish. Olive green across the back and sides, yet it had a beautiful silver sheen when the light reflected from the large, quarter-size scales covering its body. In shape, though not in color,

it resembled a chunky sunfish with its extremely wide body. The scales resembled those of a carp, though it lacked barbels or the fleshy whiskers around its sucker-like lips.

Franklin admitted that his first impression was that a shad somehow found its way to this section of the river, perhaps one that the Fish Commission assisted over the Conowingo Dam. Still it was built too stocky for a shad and it did not have the proper shape mouth. The mysterious feature was its unusually long, six-inch ray on the dorsal fin. Whatever tribe it belonged to, no one could deny that it was a handsome fish, truly a prize catch for the first official day of winter.

Removing the entrails, the mystery fish was placed on the boat floor. Cold weather quickly froze it. It was in this frozen condition when Franklin drove into my driveway and displayed the unusual catch.

In spite of years of exploring the streams, I too confessed that I had never encountered a similar fish, nor knew of any other one being caught in this region. Together we consulted several encyclopedias and one revealed a close proximity of the fish. The highfin carp sucker seemed to describe the fish satisfactorily



ALVIN FRANKLIN poses with his prize catch, the quillback, caught in the North Branch Susquehanna River.

with two exceptions. Maximum length was listed at 15 inches. Franklin's mystery fish was indeed much larger than this. Secondly, the highfin sucker was listed as being found in the middle west and south with no records of its presence in Pennsylvania.

A hurried letter to Dr. Albert Hazzard, Assistant Executive Director of the Fish Commission, accompanied by photographs of the questionable fish, brought an immediate reply. All doubt as to the identity was removed. Dr. Hazzard pinpointed the fish as the QUILLBACK, a carp-shaped sucker. His enlightening letter continued,

"The quillback, *Carpiodes cyprinus*, is found in the

Susquehanna River drainage as well as in the Ohio River Basin and in Lake Erie. If you referred 'Pennsylvania Fishes' to aid you in identifying the fish, you would have been misled by the range of the quillback as given in this publication. It should have included the Susquehanna River system and when the book is reprinted it will carry this correction.

"There are two major differences between the quillback and the highfin sucker and these were used to distinguish the two and to identify your specimen. First, the length of the extended dorsal fin rays of the highfin sucker is as great or greater than the base of the dorsal fin. In the case of the quillback and the picture which you submitted, the length of the long rays of the dorsal is only about half of the length of the base of the complete dorsal fin. The other major difference between the two fish is the length of the snout, that is, measured from the nostril to the tip of the nose. In the quillback this is much shorter than in the highfin. Usually one can distinguish similar species by the scale count in the lateral line but in this instance there is an overlap in the number of scales commonly present in the lateral line so this feature is not valid in separating the two fish.

"In recent years several quillbacks have been caught or seen by anglers in the Susquehanna River system and have been sent in to the Fish Commission for identification. Presumably this fish has always been present in the Susquehanna River system but has been rarely taken by anglers or observed by the public."

Thus, Franklin's questionable fish was established as a quillback, a somewhat rare fish in Pennsylvania. After learning its identity, we returned to the World Encyclopedia for additional information on this strange fish. This authoritative book mentioned "The quillback is a carp-shaped sucker with a long dorsal fin that is high in front. It is more silvery in color, and more deep-cheeked than the buffalofishes. The back is olive-green, the sides are silver, and the lower fins are light. It is distributed from the Red River, to the Great Lakes, and the St. Lawrence River southward through the Ohio and Mississippi River systems to Georgia and Western Florida. It is also found in Virginia. Its usual habitat is in rivers and lakes.

"The quillback moves up into smaller tributaries to the spring to spawn. It feeds on small organisms from the bottom."

Franklin was quite naturally satisfied when he learned of the positive identification. It is indeed a perplexing situation when a veteran angler, long schooled in fishing and in identification of fish, at least the more common varieties that nibble the angler's bait or strike his lure, catches a mystery fish, one that he has not seen before nor is able to label.

I fully agreed with him, that it was a remarkable fish for the Susquehanna to bestow upon an angler, especially during the first official day of winter.

Muskies—Mite and Mighty—at Union City

By LEROY SORENSON, Foreman

If one word were used to describe the reaction of the typical visitor to the Fish Commission's Union City station during the time when its crop of muskellunge is being reared, that word would be amazement. And it's amazement that borders on disbelief when many of the circumstances are described that accompany the culture of this largest, most vicious, most voracious, most unpredictable and ultimately the "fightin'est" of all of our fresh water fishes.

Being a relatively new activity at its present scale in Pennsylvania, it is understandable that there is so little knowledge generally of the work involved. However, the interest has been so keen among visitors that it occurred to us at the station that ANGLER readers would likewise welcome a resume of musky hatching and rearing procedures described by someone immediately involved.

The process starts each year shortly after "ice out" on a few waters in the northwestern corner of the Commonwealth. It continues at a concerted and all-demanding pace until the last of the annual muskellunge crop is sent on its way to suitable open waters of the state.

The main locale of the first musky culture activity of the year is the Pymatuning Reservoir and usually takes place about the second week in April, when a three-man crew sets trap nets there for adult muskies. Depending upon circumstances net setting might be extended to other musky waters in the area.

Subsequently, two men check these nets daily, including weekends during the period of the sets. Best results have been realized with trap nets as they are easier to set and check than the big pound nets.

The object of the netting, of course, is to corral adult male and female muskies that are ready for the spawning activity. Their eggs and milt are stripped by hand and this is often a three-man job—two to hold the large fish, one of whom does the stripping while the third man holds the egg pan.

These parent muskies are from 30 to 50 inches long and surprisingly powerful. Those which are not "ripe" or ready to spawn when netted, are placed into a large net enclosure or in a holding pond, and retained for up to five days. If they fail to ripen within that time they are released to avoid injury and the possible loss not only of the spawn but of the parent fish themselves.

As difficult as is egg taking, realizing a high hatch percentage is more so. However, as experience is gained and techniques improved, the ratio will con-

tinue to improve. Difficult or not, however, egg taking will always remain an important part of the musky program, because, no eggs—no muskies.

Presently musky egg procurement is under the direction of Jerry Zettle, superintendent of the Commission's Linesville station, in the sanctuary area of the Pymatuning Reservoir.

After the eggs are obtained, they are taken quickly to hatching batteries maintained at the Commission's Linesville, Tionesta and Union City stations. The Union City battery consists of a sufficient number of jars to hatch approximately 10,000 eggs.



A TRAP NET set for adult muskellunge. This is the first stage of the Fish Commission's annual musky rearing project.

In these jars the eggs are kept moving gently until they hatch, by a constant flow of water entering at the bottom of each jar through a glass tube. The hatching period may range between 9 and 21 days and depends upon water temperature. The ideal temperatures are from 50 to 57 degrees.

After the eggs are hatched they are transferred to screen trays in troughs of flowing water. This period in the life of the young musky is called the sac stage. While in this stage they lie on the screen and live entirely on their yolk sacs. After the sacs are absorbed, usually in from ten to twelve days, the young muskies start to swim up from the screens and enter another stage in which they become "swim-up" fry. And again they are moved, this time into tanks or rearing troughs, and counted. It is necessary at this point of their lives



STEP NUMBER TWO—stripping a “ripe” female. The fish is returned to the water immediately after the eggs are taken.

to initiate treatment to guard against fungus and other parasites. Formalin is the substance used in this treatment which takes about three hours for the number being reared at Union City. The treatment is done twice a week.

Also at this time, the never ending task of collecting minnows begins. When a young musky eats its first minnow it is well on its way. The little “tiger” now is about $\frac{3}{4}$ inch long and must have minnows or sucker fry small enough to be swallowed. The first minnows offered are so small one must look closely to see them. They may be only about $\frac{1}{4}$ inch long. At this stage, daphnia, commonly known as water fleas, are also offered, but the musky prefers the minnow.

The collecting of minnows for the number of muskies reared at Union City alone, is a full-time job for three men. The actual feeding, treating with formalin and sorting for size requires the full-time efforts of another and sometimes two workmen. Each musky needs and gets about ten minnows each day to assure normal growth. And as they grow into and advance in the fingerling stage, the size of the minnows fed increases proportionately.

In 1959 at the Union City station, approximately 7,000 muskies were brought to the fingerling stage, which meant that 70,000 minnows were needed every day, 7 days a week. And this goes on for about 90 days—from the time they start to feed until they are stocked. In 90 days at 10 minnows a day a single musky will eat 900 minnows. In a 90-day period, 7,000 muskies will eat 6 $\frac{1}{3}$ million minnows.

The operations at Linesville and Tionesta are comparable. It might also be pointed out that when more space is required to accommodate the fast-growing muskies, to give them the “elbow room” they need, troughs at the Bellefonte and Pleasant Mount stations are also pressed into service.

In the 90-day period at Union City the muskies grow to from 5½ to 8 inches. This is considered to be about a normal growth.

Muskellunge from the time they enter the fingerling stage are cannibalistic. They will eat their smaller brood mates as readily as they will eat minnows. This means constant sorting to keep only those of like size together and it's a slow, tedious and tiring job that can only be done by hand.



A FINGERLING muskellunge, about 1½ inches long here and above him, one of the ten “small fry” that constitute his daily fare.

There is another aspect of the Commission's musky program that is demonstrated in their rearing at the stations. The large number of minnows they consume during that time is an indication of the good thing ever-hungry, big eaters can do in waters of suitable environment where there is an overabundance of stunted or rough fish. As a constant year-round forager they may aid materially to control such unwanted fish populations. Unfortunately many Pennsylvania lakes are felt to be in that condition.

And when in the meantime one is hooked by a fisherman, there ensues a battle and fishing thrill he is not likely to forget. Also, if that fisherman falls into the normal pattern, he'll forthwith be a musky “convert” and look forward to a repeat performance. In its muskellunge program, the Pennsylvania Fish Commission is striving to provide him with just such a match, as often as his patience and perseverance will outwit this wily, truculent and unpredictable critter.

Many of us spend half our time wishing for things we could have if we didn't spend half our time wishing.

—Alexander Woolcott

Trees and Shrubs of the Waterways

By CARSTEN AHRENS

A. Larch
B. Elder Bush
or Elderberry

C. Black Spruce

D. Sycamore

E. The Alder

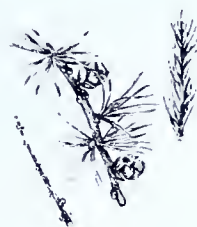
F. Button Bush

G. Swamp White
Cedar

H. Balsam Fir

I. Benjamin Bush
or Spice Bush

J. River Birch



Larch



Sycamore



River Birch

- 1. Characterized by bark that peels off in large patches giving the trunk a mottled appearance.
- 2. A deciduous shrub with very aromatic, small yellow flowers; crimson fruit.
- 3. A broad-leaf shrub; its pistillate catkins result in what appear to be miniature pine cones.
- 4. A deciduous conifer . . . one of the few "cone-bearers" that loses its needles each fall.
- 5. An evergreen with rough bracts instead of needles.
- 6. A conifer whose cones point downward.
- 7. A conifer whose cones point toward the sky.
- 8. A deciduous tree with ragged orange bark; likes rocky places.
- 9. A deciduous shrub; its midsummer flowers are in densely packed, globular heads.
- 10. A deciduous shrub with a white showy mass of flowers that become a black cluster of berries; excellent for pies or jelly.

ANSWERS

A—4; B—10; C—6; D—1; E—3; F—9; G—5; H—7; I—2; J—8.

Secret Fishing Holes

By HOMER CIRCLE

Trying to keep a fishing hole secret is like trying to smuggle daylight past an eager rooster! But, say Heddon fishing experts, it can be done and here's how. . . .

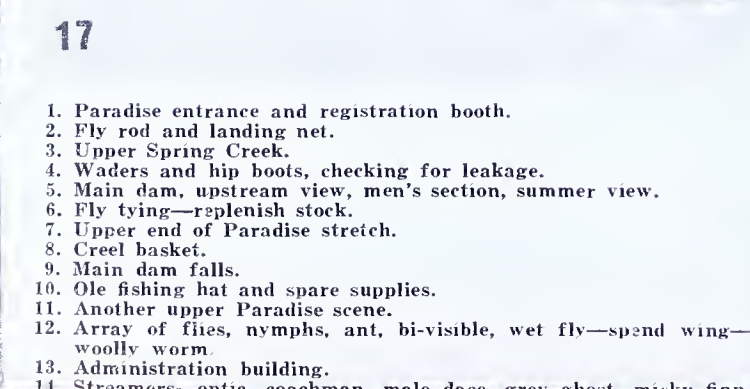
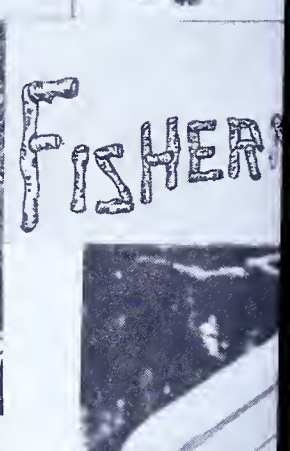
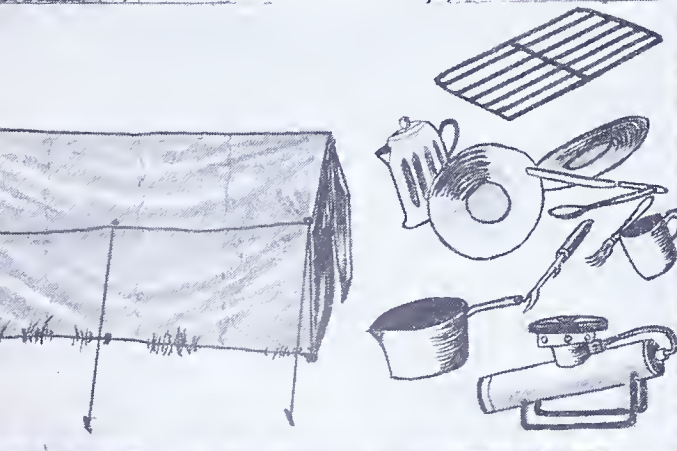
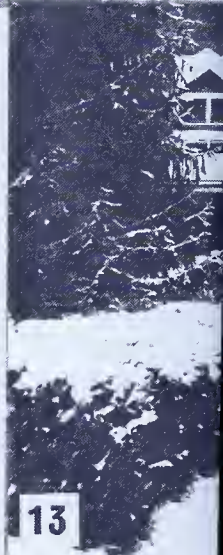
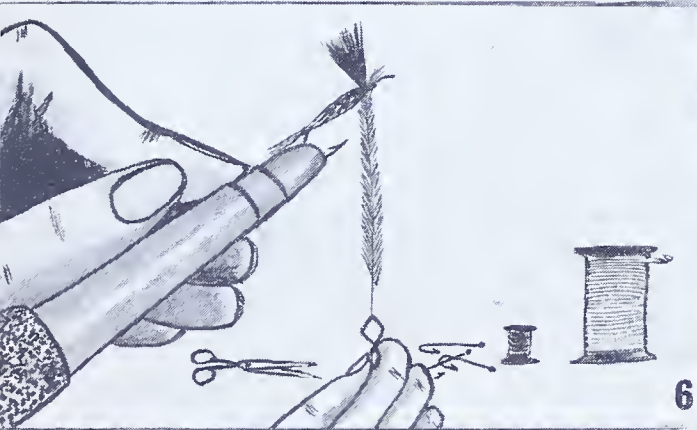
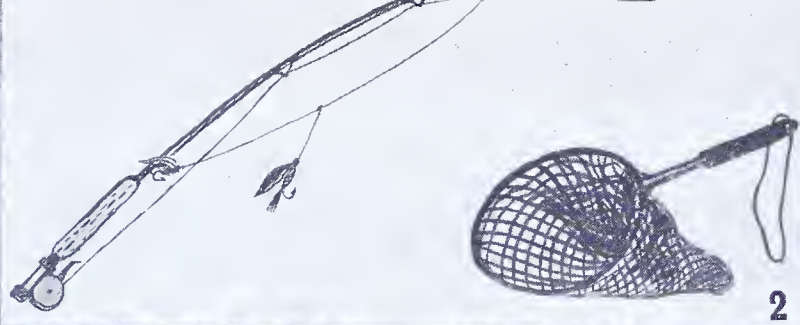
Fishing can be good or bad, rarely in between, depending upon the whims of the gods. For days fish will lie tranquilly in the shallows, spooking at the shadow of your lure before it plops in the water.

Then, they disappear from the shallows. To where? That's the big question, and the answer will net you what we started talking about—a secret fishing hole!

You find yours by trolling a deep-going lure like a sonar. . . . Try the dropoffs first, then the channels, then the deepest, darkest hole in the lake. If you know where a spring boils up, it's a real promising spot.

When you get that first strike, triangulate the area by picking out three different landmarks—one off each stern point, the third off the bow. Fish it out well, this could be that bonanza you've been waiting for.

What's more, you can return to your secret fishing hole undisturbed because only you know the combination.



17

1. Paradise entrance and registration booth.
2. Fly rod and landing net.
3. Upper Spring Creek.
4. Waders and hip boots, checking for leakage.
5. Main dam, upstream view, men's section, summer view.
6. Fly tying—replenish stock.
7. Upper end of Paradise stretch.
8. Creel basket.
9. Main dam falls.
10. Ole fishing hat and spare supplies.
11. Another upper Paradise scene.
12. Array of flies, nymphs, ant, bi-visible, wet fly—spend wing—woolly worm.
13. Administration building.
14. Streamers—optic coachman, male dace, grey ghost, mucky fin.

FISHER



4



5



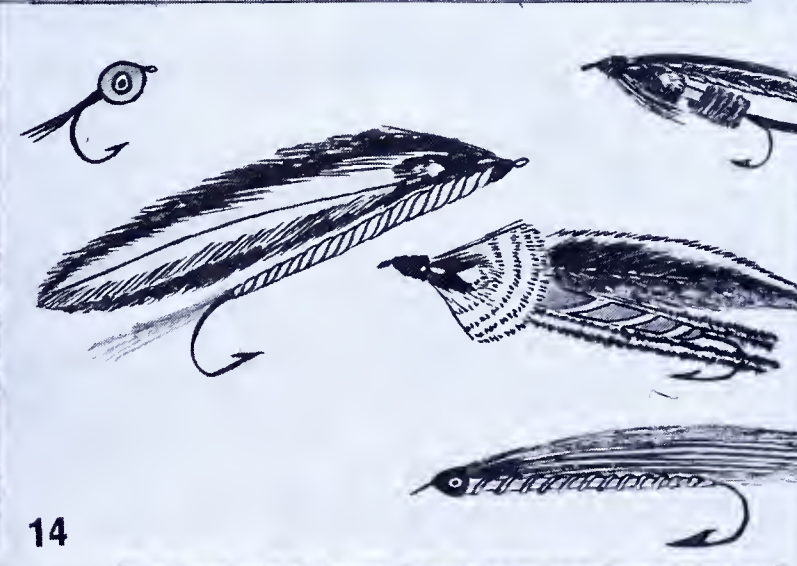
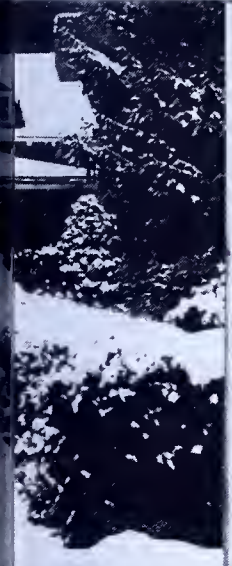
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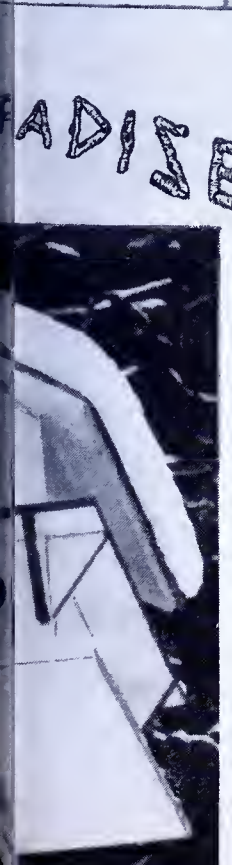
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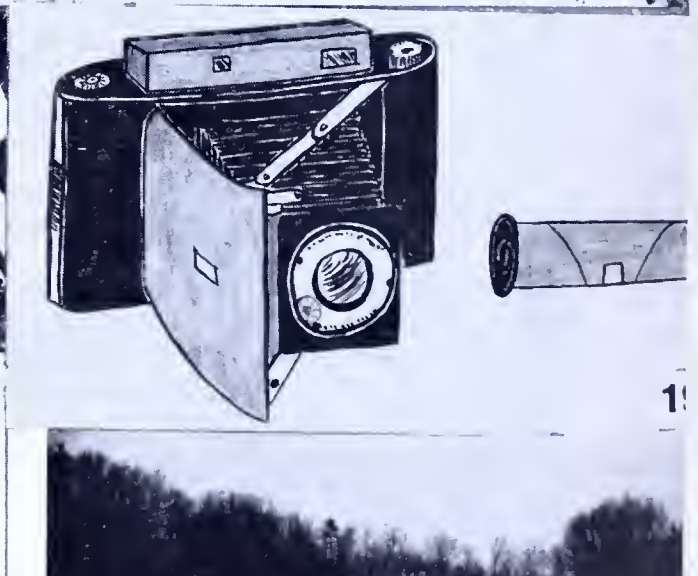
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15



18



19

- 15. Same scene as No. 5 summer pix.
- 16. Camping gear.
- 17. Picnic area.
- 18. Iron bridge walk.
- 19. Camera and film.
- 20. Fishing scene along the lower stretch of the Paradise at the iron bridge.
- 21. Empty bird house.
- 22. Scene looking downstream from iron bridge.

Art and photographs by
JOHNNY NICKLAS, Chief Photographer
Pennsylvania Fish Commission

IT'S SHOCKING

Both fish and fishermen are shocked when the "biology boys" move into a stream with their electro-fishing gear.



A TYPICAL small stream electro-shocking operation. The barge contains the generator while two men move the electrodes which create the electric field in the water. Fish stunned momentarily can be counted or dipped for closer study.

"There's no fish in the creek. No sir, hasn't been for a long time." "You're just wasting your time putting that electric machine in the water." "You won't find anything." "What's needed is a good stocking." These were samples of the comments that greeted Fish Commission personnel last summer whenever they set up an electro-fishing demonstration. But here's what really happened, citing one demonstration as an example.

After the electrodes were placed in the stream and a 1,300 foot section was covered, it was amusing—to those at work, that is—to see who or what were more shocked, the fish or the fishermen. On this one the "electric machine" brought over 200 trout to or near the surface, twenty-four of which ranged between 12"

and 24" in length. And most of them were highly colored and in prime condition.

Similar demonstrations were held on 27 other representative trout streams in the Commonwealth. To be sure, the number of trout shocked was not always as high and in a few instances numerous suckers were hit. However, the usefulness of electro-fishing as a modern tool of fish management was proven beyond a doubt. The fishery managers supervising the demonstrations recorded 1,773 spectators witnessing them. The only regret was that there were not more. Electro-fishing was a real eye opener to most of those on hand.

The "electric machine" consists of an electric generator, several hundred feet of insulated cable and field electrodes. When the electrodes are placed in the

water, an electrical field is created. Most fish present in this field are momentarily stunned and can be easily dipped up with a scap net.

Fear on the part of the sportsmen that the shock will kill or harm the fish has been shown to be unfounded when the equipment is properly regulated. The electric charge is then just strong enough to momentarily stun the fish. Most often in less than a minute they recover, are back to normal and swim away.

An amusing display that took place during one of the demonstrations followed when the electrodes were placed in a deep pool of the stream. There was a great splash as a medium size muskrat struggled to the surface. Stiffened by the voltage, it was placed on the stream bank. A few seconds later he recovered, shook himself and moseyed back into the water none the worse for the experience.

Electro-fishing has proven to be an effective method of sampling the fish populations of small streams and the shallower areas of rivers and lakes. It is used to determine the number of native and planted fish in a given water area, the ratio of game fish to rough fish or forage fish and to check the age, health and condition of fish life in general. The old method of such studies employing nets proved to be unsatisfactory. In electro-fishing the fish are netted as soon as they are

stunned and examined for whatever information is desired.

Last summer's demonstrations were held on sections of the following streams:

Tulpehocken Creek in Berks and Lebanon Counties; Spring Creek, Berks County; Yellow Creek, Bedford County; Clover Creek, Blair County; Buffalo Creek, Butler and Union Counties; Chest Creek, Cambria County; Logan Branch, Centre County; Trout Run, Clearfield County; Fishing Creek, Clinton County; Pine Creek, Crawford County; Letort Spring Run, Cumberland County; West Branch Clarion River, Elk County; Little Conneautee Creek, Erie County; Falling Spring Branch, Franklin County; East Branch Standing Stone Creek, Huntingdon County; Middle Creek, Lancaster County; Little Lehigh River and Cedar Creek, Lehigh County; Grays Run, Lycoming County; Neshannock Creek, Mercer County; Tea Creek, Mifflin County; Whites Creek, Somerset County; Asaph Run, Tioga County; Little Brokenstraw Creek, Warren County; Mill Creek, Westmoreland County; and Muddy Creek, York County.

The results were such that additional demonstrations have been planned for the summer of 1960. So if you wish to see electro-fishing in action, and be "shocked" at the number of fish that have eluded you, watch your newspapers for the announcements.

—C. R. Glover

Out of the Allegheny



(Above.) Five smallmouth taken on a jig from the Allegheny River last November near Franklin by "jiggers" John and Jack Eagles, a father and son angling duo. The bass from 15 to 19 inches.

(Left.) A 7½-pound walleye taken by the same method in the same piece of river about the same time by Bob Parlamen, also of Franklin.

EARLY TROUTING

By DICK FORTNEY

You can be pretty sure that fishing will not be easy when the 1960 trout season opens on April 16.

If the usual weather conditions prevail, the streams will be high, and perhaps also muddy. It may be raining—or even snowing in the northern counties of the state. The water will be very cold. You will have to compete with a host of other fishermen eager to get back to the streams after the long winter.

Your favorite trout stream may have changed since you last saw it, particularly if it is a small brook where the winter freeze and the spring thaw can fill small pools with silt and gravel, or dig out new holes, or perhaps even change its course.



YOU MAY be pelted by snow on opening day, but you have waited all winter, and you'll be on your favorite trout stream in spite of all the hardships and difficulties you face.

Trout are not likely to be actively feeding, for the low temperature of the water in early spring dulls their appetites and slows down their activity.

You are aware of all these handicaps, but you also are a confirmed trout fisherman, so you will be going to your favorite stream in spite of them. And, if you are a wise trout fisherman, you will have done some thinking and planning that will enable you to have some fun and catch some trout on opening day.

Unfavorable water conditions can be met, feeding trout can be found, and some elbow room for angling

can be yours—and the risk of discovering that winter has given your favorite brook a “new look” can be eliminated entirely.

(You can't do anything about the weather except to dress as well as you know how to keep warm and dry.)

Let's consider the problems one by one and dispose of the easiest one first—the problem of changes that may occur in a stream during the winter period. The solution is simple: A couple of weeks in advance take a hike along the stream you plan to fish on opening day. Carefully study the pools and riffles. You will easily notice any changes that may require you to alter your fishing plans.

Unfavorable water conditions also can be met successfully.

Don't rush up and down the stream, in hit-and-run fashion, but concentrate on spots where your experience and common sense tell you trout are most likely to be found.

It may pay you to spend an entire day on a single pool, if the stream you fish is large enough, for you can be reasonably sure that there will be fish in such a pool.

In large pools and deep water, let the bait sink to the bottom, but move it around occasionally instead of letting it lie, while you wait for a fish to come upon it. In riffles, cast upstream and allow the current to carry your bait downstream as it sinks deeper and deeper into the water.

To offset the handicaps of high, swift water, carefully work the pockets at bends and along shore lines where the current loses speed.

Trout are not fasting in spring, and even though their appetites are dull, feeding trout can be found.

In addition to deep pools and comparatively quiet pockets mentioned before, trout are most likely to be found feeding in a pool of the main stream that is fed by a branch; in the vicinity of rocks, ledges, logs and other underwater objects that offer them protection and escape from swiftly-moving water.

And feeding trout are to be found especially in the small brooks and the feeder branches of larger streams. The “snow water” runs off first in these side streams.

Occasionally trout will be feeding in the riffles in the spring. The riffles are favorite feeding places of trout, and particularly in the smaller streams the

water level and force may ease enough by mid-April that hungry trout will explore them for food.

The early season angler must always be on the alert. He might even spot a non-conformist trout feeding on the surface!

Finding elbow room in the early days of the season always is a problem—because so darned many fellows, and not a few of the fair sex, are eager to get back to trout fishing.

Mountain streams and meadow brooks are the answer.

Actually, the very beginning of the season is the best time to fish these types of trout brooks. By June or July, most of them will be extremely low. The riffles will have all but disappeared, and the pools will have shrunk to the dimensions of puddles.

The experiences of a couple of friends come to mind.

Bob Reynolds, finding his favorite trout stream, a rather large creek, impossibly high one spring, decided to try his luck on a small mountain stream that flows out of a lake. He worked hard on one small pool at the foot of a waterfall—and caught a 20-inch brown trout that had obviously moved into the brook from the lake to spend the winter.

“Doc” Mader acquired a topographical map of a section of Central Pennsylvania and noted a considerable number of small brooks in the mountains. Plotting his course from a highway map, “Doc” explored a number of these streams and eventually came upon one that was teeming with native brook trout of legal size.

“Doc” had to walk quite a stretch from his parked car to get to this bit of water, but for the first five or six weeks of the season he had a lot of sport with its brookies. After that, the mountain stream got low, and vegetation made fishing difficult, so “Doc” went to the larger streams.

Mountain streams and meadow brooks are not easy to fish—overhanging trees and thick streamside vegetation make long and accurate casts difficult, and often impossible, and the travel is often rugged along the mountain brooks, while the wide-open meadow brooks require the angler to fish with the utmost quiet and caution.

But these difficulties are the very barriers that keep a lot of anglers away from them during the early part of the season, so that the fisherman who is willing to put up with them can find that “elbow room” that is so desirable.

Where does that bring us?

Let us assume we have chosen a stream where we are reasonably sure there will be no great rush of anglers. We have visited it before opening day to locate pools and riffles. We have made up our minds where the fish are most likely to be found. We can

safely expect that the water will be near enough normal that we can fish.

Good. But we have ignored one very, very important point.

What are we going to fish with?

The dry fly purist might just as well remain at home unless there is a spell of unseasonably warm weather that may cause some surface activity on the part of the trout.

Worms are the No. 1 bait for early trouting days. They should be bright and lively and of good size, although not necessarily nightcrawlers. They should be fished on a single hook, with just enough weight to get them down into the water. They must be worked in every likely spot that may harbor a trout.

Minnows also are excellent. They may be still-fished, if they can be kept alive on the hook, and they may be rigged with swivels that will make them twist and spin when they are moved through the water with short, jerky movements of the rod.



MOUNTAIN streams are good bets for early season angling. For one thing, “snow water” runs off earlier in them than in larger streams. For another, you will find more “elbow room” because they are harder to fish and many anglers prefer the easier waters.

—Photo-Graphic Arts Photos

A small spinner can catch the eye of a trout and attract it to a worm, fly, or minnow, especially if it is cast into a pool, allowed to sink to the bottom, and then moved with just enough motion of the rod to make it flutter—never with a fast, continuous retrieve.

Wet flies, if they are in the dark colors of natural aquatic insects in the spring, also are productive, and so are bucktails and streamers if there are schools of minnows in the stream being fished. Artificial nymphs are ideal for early season angling.

From these we can select the bait or lure we will use.

Then we will be ready for the challenges of the first few days or weeks of the 1960 trout season.

We Fish It—Then Drink It, and Love It

By **SHORTY MANNING**

Mark one more water supply reservoir—ours—on which expanded public fishing opportunity is the order of the day. This one is the 391-acre Springton Reservoir in Delaware County, and thanks mainly to Thomas W. Moses, President of the Philadelphia Suburban Water Company.

Actually, water supply reservoirs represent one of the greater potentials for increasing the water area of the Commonwealth on which the public might fish.

But needed in positions of authority in more water companies are more of Tom Moses' inclination. For aside from those reservoirs whose waters are not completely treated, hence by state edict are barred from any other use, officials of some similar water areas across the state still subscribe to old-fashioned prejudices. Or maybe among them are some who are loath to give up the private fishing preserves their reservoirs represent.

Though Tom Moses is an avid fisherman himself, he prefers to share. And shortly after filling the position he now holds, he called in the officials of the Delaware County Field and Stream Association and outlined his proposal: To increase materially the shoreline area on which fishing would be allowed; to assign a watchman during the 6:00 a.m. to dark fishing hours, and to establish two 21-acre parking areas, complete with sanitary facilities.

Completed and now in use is one parking area about 100 yards from the reservoir in the fork of two roads leading to the impoundment. The second proposed parking area will border the water at the dam breast and extends for 1,300 feet along the shoreline. Eight other fishing areas of approximately 900 feet each extend along the shore beyond two spanning bridges.



All that was asked in return was the influence of the association in encouraging that the privileges be "used right." And if they were, there would be more—a further extension of "open" shoreline and the possibility of opening the reservoir to boat fishing.

The species of fish present include largemouthed bass, bluegills, sunfish, yellow perch, crappies, catfish and suckers, also an occasional lunger brown trout.

And believe it or not, the water that comes out of the faucets on the other end of all those fish tastes no different, smells no different, nor has anyone gotten sick from it. If anything, it's a wee bit sweeter, and that segment of the consumer population who fishes it is healthier.

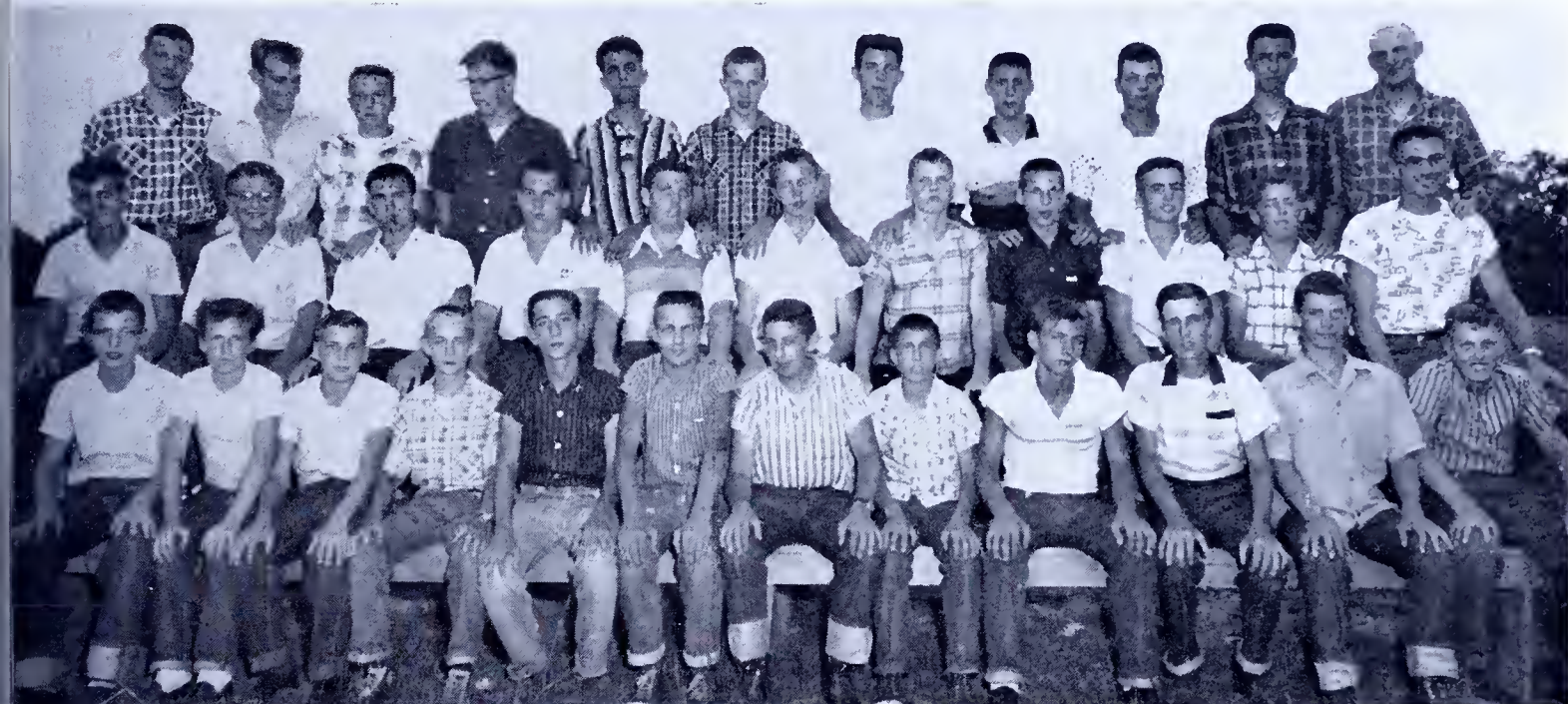
Ten Year Angler File—for Trade!

One of the subscribers to the PENNSYLVANIA ANGLER has made us an offer. He has all one hundred and twenty copies of the ANGLER issued during the past ten years which he offers to trade for "What have you?" He also offers for trade the past ten years' file of the Pennsylvania Game News.

If interested write to:

Wm. W. Hillgartner, 128 Biscayne Drive, Pittsburgh 10, Pa.

Blueprint for Something to Do



FRONT ROW, Left to right: Ed Quigley, Evans City; Gary Winger, Harrisville; James Lutz, Zelienople; Larry Schweinegruber, Zelienople; Peter Scuoteguazza, Butler; Robert Crawford, Slippery Rock; Robert Appel, Slippery Rock; Raymond Baker, Zelienople; Lonnie Grossman, Slippery Rock; Edward Franceschina, Mars; James Stewart, Slippery Rock; DeWayne Hall, West Sunbury. **MIDDLE ROW**: Garry Foster, Jr., Csl., Evans City; William Barbary, Butler; Jack Fleming, Butler; Dennis Raymer, West Winfield; Robert Wilkewitz, Sarver; David Hare, Zelienople; David Gundlach, Sarver; Robert Gibson, Wexford; Thomas Love, Sarver; Ronald Van Dyke, Harrisville; David Kline, Jr., Csl., Evans City. **BACK ROW**: Don Madl, Sr., Csl., Valencia; James Golla, Gibsonia; Lowell Davis, Butler; David Kennedy, Mars; Richard Hiwiler, Boyers; William Duespohl, Bruin; Roy Chiappini, Eau Claire; Barry Shakley, Petrolia; Francis Bosch, Slippery Rock; David McCandless, Mars; Floyd Duespohl, Sr., Csl., Petrolia.

For sportsmen's clubs looking for a truly constructive and productive project, try on for size the summertime Conservation School for boys, instituted in 1951 by the Butler County Sportsmen's Council.

Here was truly a pioneer effort and because of the continued cooperation, including financial support, of interested sportsmen and the 15 member clubs of the Council, it has become a regular feature, improving with each annual session.

If proof is needed of the appeal that has been wrapped up in its one-week term, many more applications are submitted than the roster limitation of thirty that has been set. And this during vacation. Further, of the thirty boys from all parts of Butler County present for the opening Sunday class in the 1959 term, thirty graduated the following Saturday.

During the week, a program jam-packed with conservation education is unfolded during the 6:30 a.m. to 10:30 p.m. days. A well organized succession of classes now includes these subjects: first aid; plant, tree, reptile, bird, animal and fish identification; stream improvement; soil erosion control; farm pond construction; NRA hunter safety course covering all types of

sporting arms and ammunition; numerous other safety demonstrations; water pollution control; forest fire prevention; camp techniques, including cookery, and survival in the forest. Withal, there is still time to get in such diversions as baseball, fishing, horseshoes and wildlife movies.

A group of instructors, all authorities in their respective fields, lend themselves on a voluntary basis. Included on the staff are personnel of the Fish and Game Commissions, State Police, Department of Forests and Waters, Civil Defense, Butler city police and fire departments, Agriculture Extension Service, Butler County health department, National Rifle Association and the staff of the Pennsylvania State University. Local doctors, teachers and other professional men take their turns. And last year, the Ladies Auxiliary of the Harrisville Deer Hunters, on whose club farm the school was held, took care of the inner-man needs. They ate good and plenty.

It was inevitable that the undertaking would not go unnoted for long. Conservationists and educators, too, throughout the land are striving to establish programs of this nature in their respective communities

and schools and are literally crying for a popular way to do it. The trick seems to be to inject some glamour in a subject that for too long has been and still in most quarters is, couched in long hair. The Butler Countians have turned it beyond a doubt.

Requests for information on how they did it are increasing. One of the more recent and far distant came from British Columbia, Canada. Of course all are answered in detail. In some cases those close to the effort, including teachers and officials of Butler County schools convey the message personally to groups in nearby counties.

Incidentally and understandably there is a fee—all of \$25 per boy, \$20 of which is paid by the sponsoring club and \$5 by the boy himself. Included in the

administrative details are such things as application blanks, parent consent slips, doctor's certificates, insurance, examination questionnaires, handbooks, arm bands, field trips transportation, graduation certificates, the highly coveted Pennsylvania Game Commission Conservation Awards to the two top boys and a "scholarship" to the two-week conservation camp at State College sponsored by the Pennsylvania Federation of Sportsmen's Clubs.

So let's go back to the opening paragraph here. If you can interest your club or county unit in contributing in like manner to conservation, the blueprint is no further away than a letter to Leonard A. Green, President, Butler County Sportsmen's Council, R. D. 2, Butler, Pa.

—C. R. Glover

Myers to Receive National Conservation Award

Seth L. Myers of Sharon, Pa., has been named winner of an American Motors Conservation Award for his many years of varied conservation activities.

The engraved bronze and walnut plaque signifying the award will be presented formally to Myers at a conservation meeting in the near future.

Not only has he been active in many organizations, but he has promoted conservation among laymen by writing a column carried by 30 newspapers, making weekly radio broadcasts, and by writing magazine articles. Currently he is writing a book. He has been secretary of the Outdoor Writers Association of America for 10 years.

He also has made more than 1,000 speeches to youth, civic, business and church groups.

As secretary and later state delegate of the Mercer County Council of the Pennsylvania Federation of Sportsmen's Clubs, Myers has fought vigorously for conservation legislation. He helped organize the Western Reserve Fish and Game Protective Association and has held office continuously for 25 years.

The American Motors Conservation Awards Program was established in 1953 to annually honor 10 professional and 10 non-professional conservationists. The professionals receive a \$500 check in addition to a plaque.

George Romney, president of American Motors, said the company sponsors the program because "so much enjoyment of the outdoors is dependent on the automobile and because conservation of our natural resources is vital to maintaining a sound America."

Never Make a Sharp Turn at High Speed!

Use Common Sense Afloat, Reduce Your Speed Before Making a Turn!

OBC's survey of small boat accidents showed that high speed turns are one of the leading causes of boating mishaps. The most seaworthy of boats may capsize when handled this way. Aside from risking the lives of passengers, a high speed turn may also damage boating equipment. Turning at high speeds can cause cavitation wear to the motor and put undue stress and strain on the boat hull resulting in serious leaks. Always remember to reduce speed before making a quick turn. Check the passengers, too, to see that they are properly seated. Always check the life preservers before going

out. Make sure the buoyant vests, ring buoys, or buoyant cushions are Coast Guard approved and in serviceable condition. Old or waterlogged preservers won't do anyone any good. Keep them aired out and test them periodically. Remember to always stay with the boat in case it should be capsized. Don't try to swim ashore. It usually is farther than it looks. Don't leave your life preserver, stay with the boat and call for assistance. Knowing emergency procedure before an emergency arises is the mark of a good skipper.

—Outboard Boating Club of America

Legislature Updates the Fish Law

By **JOHN SULLIVAN**

Deputy Attorney General

Pennsylvania has a new Fish Law.

On December 15, 1959, Governor David L. Lawrence placed his signature on House Bill 959, which modernized and brought up to date the much-patched statute which has served the Keystone State's fishermen since 1925.

Without making any drastic changes, the Fish Law of 1959, as it is now officially designated, eliminated much obsolete language and clarified a number of ambiguities which had existed in the old law. It was one of a series of bills dealing with fishing which engaged the attention of the General Assembly.

One change in the law was the elimination of the license button, which most States have now abandoned. This is expected to save the Fish Commission \$25,000 a year.

Under the new Act, aliens may now purchase licenses. This brings Pennsylvania in line with other States. The fee for such aliens, whether resident or non-resident of Pennsylvania, has been set at \$7.50.

The license fee for all non-residents, which formerly was on a reciprocal basis ranging from \$3.25 to \$12.00, now becomes a flat \$7.50.

The fine for stream pollution has been changed from a mandatory \$100 to a sliding scale up to \$1,000.

The new law is Act No. 673.

Holders of propagation licenses were granted the right to destroy frogs and tadpoles for depredation under House Bill 157, which was signed June 30, 1959, as Act No. 124.

Legislative concern over establishment of fishways in the Susquehanna was reflected in House Bill 672, which became Act No. 629 on December 8, 1959. This authorized the Fish Commission to expend funds for a survey of the problem.

The Frog and Terrapin Law was amended to make it apply to turtles, frogs and tadpoles and by making the creel limit fifteen frogs or tadpoles and ten turtles. This was Act No. 354, signed September 11, 1959.

Fee fishing ponds were redesignated regulated fishing lakes and a new license fee system provided for them in House Bill 2028, signed as Act 552 on November 19, 1959.

Conspicuous among the major measures which fell by the wayside was the Boating Bill, designed to bring

Pennsylvania into line with Federal law under the Bonner Act. This was House Bill 1178, which passed the House on October 14 by a vote of 171-18, received one Senate reading on November 17, and was recommended to the Rules Committee on November 30.

The only Senate bill on fishing which became law was Senate Bill 1065, authorizing the Fish Commission to sell real property in East Saint Clair Township, Bedford County. This was Act 431, signed October 7, 1959.

Here, in brief, are the bills that failed.

House 1235, providing for an experimental trout station on Big Spring in Cumberland County.

House 686, authorizing fish wardens and others to make arrests for violations of the clean stream law.

House 1010, increasing reimbursement to counties for prisoners from one to two dollars a day.

House 880, increasing the possession limit of fish bait and bait fish.

House 392, regulating fishing in water supply impoundments.

House 848, requiring that any lake of more than 25 acres be open to public fishing.

House 1042, increasing the fees of agents issuing fishing licenses from 15 to 25 cents.

House 146, providing free fishing licenses for persons over 65.

House 2458, exempting inmates of State institutions from license requirements.

House 210, providing reduced license fees for persons on Social Security.

House 255, relating to jurisdiction of justices of the peace in fish law cases.

House 1268, changing the trout fishing opening to have it fall on a Saturday.

House 291, providing free licenses for veterans who have lost the sight of one eye.

House 1824, providing for the setting aside of certain waters for fishing exclusively by children and disabled persons.

House 2341, similar to House 1824.

House 1234, providing for expenditures on public fishing waters.

House 17, regulating pollution.

Senate 836, limiting the acreage that could be acquired for conservation purposes in any county.

Senate 1199, regulating the taking of carp.

Senate 240, providing free licenses for institutionalized orphans under 18.

Senate 391, providing free licenses to persons over 65.

Senate 374, changing the motorboat license year to January 1.

Senate 108, prohibiting sale of striped bass or rock fish under 12 inches long.

Of Fishing and Looking and Listening

Occasionally, of the many fine columns penned by Pennsylvania's outdoor writers for their respective newspapers, one will ring the bell so loud on the ANGLER'S editorial table that at least a part is slipped into its pages.

Such a column was one written several weeks ago by Steve Szalewicz of Franklin in the Franklin News-Herald. It not only told of catching fish, but dwelt upon a dividend or two in Steve's typically distinctive prose. Here it is in part:

"... It was only 11 o'clock and there was a feeling that just could not be shaken. Hunting season or no, the River beckoned. The Allegheny had cooled off, her minnows were scattered and the day was dull enough to send hungry walleye prowling.

"At 12:15 p.m., Eagle Rock on the Route 62 side was passed, a load of jigs in the jacket. The trek continued on down the tramway, abandoned by a lumber operation almost fifty years ago, for another quarter mile along the river to the walleye repository.

"A year ago in a couple of hours on a similar bleak day a musky, a walleye and a bass rewarded the effort. I should be so lucky this time. Expectations warmed up as the end of the hike neared.

"When the watch was next checked it was 12:35 p.m. and already four walleye reposed in a pool made quickly by damming a hillside spring. The fishing was unbelievable. In four casts of a yellow-headed, silvery-tailed jig four walleye between 15 and 20 inches were hooked and landed. They hit deeply but rose quickly to the surface and splashed and fought like spring trout.

"... I had come not only to fish but to spend a couple hours at the river's edge. The limit of walleye is six a day. I could see no point either in the interest

of science or bragging to go beyond six only to return those over the limit. Handling walleye is a quick way to sear fingers and it does little good to the fish.

"So after four casts with the spinning reel not even warmed up, I decided to give it an overdue oiling and to devote a bit of time to just looking and listening. There was no doubt that two more could be caught this lucky day. . . .

"There were sounds. The 'pooled' walleye splashing behind me, a rooster crowed on the other side of the river, a jointure of three diesels fighting the railroad grade, shifting gears and accelerating trucks snaking up the Route 62 hill out of McCreary Run, and two quick shotgun blasts boomed down from the Eagle Rock Narrows—probably a grouse hunter.

"But the accent was on walleye. Ever give a walleye a good look in its mouth? Is there a cleaner looking fish? His jaws and teeth seem to be fashioned of pure ice, the crystal like variety that elings to the willows of a trout stream in April. While fishermen might rave about the coloration on a rainbow, they stuff the golden-sided, dark barred walleye into the sack without noting that the lower part of its tail looks frost-dipped and the belly is white like newly piled shore ice.

"The reverie ended as I picked up the rod and flipped the jig. Above a jet's vapor trail had dissipated until it looked like a huge caterpillar. . . . On the next cast, and the sixth of the day, there was a tug and another zig-zagging walleye, and I called it a day."

(In case there is any wonder at the author's quitting at five, rather than going for the legal walleye limit of six, it was learned here some time ago that it's a personal thing with one S. S. that he will never take that last fish of any species that would constitute a limit catch.—C. R. Glover)



"HOWDY"—the raccoon—says:

Don't be a litterbug!
You CAN take it with you.

A Gift for the Boys

By JIM JACKSON

It was almost sunset and I had just caught two fair-sized bass. Now I was whipping my fly line toward the east bank, scanning the reflections on the water for more signs of surface activity. What I saw instead was a long shadow moving up from behind to join mine.

"Any luck?"

I looked over my shoulder and recognized Ben, the farmer who had given me permission to fish his pond.

"Some," I answered, pointing to a stringer at the bank near where he was standing. Then I added as a courtesy, "One of those two bass is for you."

Ben is a genial farmer, a man who welcomes most sportsmen as long as they show courtesy and have respect for his property. I'd fished his pond often—with his sanction of course—but this was the first time he had actually followed me out to it. He told me, in a friendly way, that he'd rather catch his own fish and for me to take home whatever I had. It did bother me a little, though, when he just sat there on the bank, watching me. But then I figured he wanted to talk so I joined him and we sat together, watching long shadows creep out over the horizon from the west.

By the way he spoke about his pond, I could tell that he was proud of it and I agreed that he had a right to be. But, funny thing, while telling about the planning and work that went into its construction, he would not give credit to himself. He spoke about how *they* did this and *they* did that—but never himself.

"Say, Ben," I asked him, "Who are *they*?"

"Why, they're my two sons. They're both in Uncle Sam's service now. If it hadn't been for them, there would be no pond and I reckon not much wildlife of any kind on this farm."

"What do you mean?"

Now his face glowed with pride and I suspected it was time to relax and listen, to forget any ideas I entertained about snagging another bass in the stillness of dusk.

"Well, you folks from town may or may not realize this," he began, "but farmers tend to be independent and don't appreciate some folks telling them what to do. Course, lots of other people are that way too. I was especially that way in my younger days, after my father died, leaving me to tend a two-hundred-acre farm—this home place, by the way. It was quite a responsibility for a young sprout who knew only what his father had taught him about farming."

"How old were you then?" I asked, wondering by what devious means he might get back to telling about his sons and the pond *they* were responsible for.

"Twenty-one, give or take a year. But the only way I knew how to farm was the way he'd farmed—the clean way. You know what I mean? Like fightin' Mother Nature. It had some merits, I suppose, but what wasn't in crops or pasture was in gullies, mud-wallows or burned-out fence rows. In other words, there wasn't much fun to be had on that kind of farm-



land for two outdoor-minded boys. You can't keep 'em down on the farm on clean farming."

Ben's rough, leathery face disguised a character mellowed by years as a father, watching a couple of boys search for a lost hunting grounds, a lost heritage. He made a broad gesture over his fields: "The boys, the two boys brought me out of it. They taught me

that it takes more than cash, cattle and crops to make a farm a decent place to live."

He paused now, waiting for me to prod him into the heart of his story. Way over near the east bank of the pond, a hunker bass jumped mightily and sent a message of ripples which momentarily shook me loose from Ben's narration. Ben must have sensed my distraction, for he continued his silence until I finally asked: "How did it come about, how did the boys influence you so?"

"Well, it began back in Fifty-two, the first summer of the drought. One evening I told the family that I had a mind to burn off a patch of scrubby timber, about forty acres, with the idea of getting a little grass to grow for the cattle. Truth is, I had too many cattle then, dry as it was. Those squirrel and rabbit huntin' boys of mine just hit the ceiling. They were freshmen in high school and all hopped-up about some conservation studies. They bawled me out. Mind you, they had enough nerve to lecture to their father about his old-fashioned ideas.

"It made me so mad I did go ahead and set a fire anyway. Burned over better than eighty acres, ruined about a hundred new-cut fence posts and almost caught fire to a shed filled with the only hay I'd harvested all summer. The forestry boys had to put out the fire and they were almost as mad as the wife and boys."

"Did it help the grass and cattle?" I asked innocently.

"Course it didn't," grunted Ben. "But it did kill some young timber and ruined the boys' squirrel and rabbit huntin', just like they said it would. That was one time when the boys taught me a lesson. I vowed then never to set fire to the woods again.

"You know how boys in their teens sometimes get an idea they know more than their fathers? Well, my two boys had won a battle; next thing I knew they begged me to leave some brush piles around and to let the fence rows grow up ragged with weeds—just for wildlife. Believe me, they wore me ragged. And every time they'd come home with some such idea, the wife would side up with them. But actually she was right all along, 'cause it did me good to see those boys take some sort of interest in the home place. It was good for them too."

"But what about the pond, Ben?" It was about time for me to head back toward town. By now there was only a faint golden glow in the west and the bullfrogs had started croaking across the darkening water, hoarsely suggesting their exclusive right to the banks of the pond.

"Well, like I said," continued Ben, "the boys were responsible for the pond. We already had a couple of watering ponds built by my father with mules and a drag but, you know, livestock and bullheads can make a pond pretty messy. Of course, I'd never thought about it before, but the boys wanted a real fish pond. They finally sold me on the idea of building one of those multi-purpose ponds—for livestock, fish, game, swimming and so on—with government assistance. They were right as usual. It was a lot better than dragging washed-in mud out of the old ponds every few years."

It's gratifying to know a man who looks to the future of his farm and its inheritants. That's conservation. But right now I was concerned with the immediate future of getting home to clean a couple of bass for the freezer. We got up from the bank and I excused myself to Ben for having to leave; I knew he could have talked on for another hour at least. I told him I'd like to someday meet his two boys.

"Yessir, they're good boys," he reflected, still in a reminiscient mood. "Maybe they'll both be home next summer. By that time the wife and I hope to have another multi-purpose pond completed and stocked with fish—sort of a homecoming gift to help them keep a lasting interest in the home place."

As I drove home in the dark I reasoned that Ben actually owed that new pond to his boys, and a lot more besides. By their persuasive energy, they had brought him into focus with their own youthful visions. They had averted Ben from the negative past of barren fields and muddy waters to the positive vision of a farm made more attractive to wildlife and, of course, to people.

But before I reached home I reasoned something else: that Ben and his boys must have been indebted to someone outside the family. That someone else could only have been the teacher who guided the boys into appreciating and having some understanding of the great outdoors.

—Missouri Conservationist

A Touring Rainbow!

The recovery of a rainbow trout, stocked by the Pennsylvania Fish Commission, in Lake Ontario was reported recently by Alfred Larsen, Commission biologist stationed at Erie.

The trout was one of two thousand that was tagged and stocked on April 11, 1959, in Twenty Mile Creek, a tributary to Lake Erie near the Pennsylvania-New York border. It was recovered on December 1, 1959,

in Lake Ontario near Cape Versey. When caught it measured 16.4 inches and weighed 2.09 pounds.

A number of rainbow trout stocked in Pennsylvania tributaries to Lake Erie have found their way over Niagara Falls and have been taken in the river below by sport fishermen. However, this fish, taken at the extreme eastern end of Lake Ontario, represents the farthest migrant taken to date.

Get the Facts First

Time was when you could tell a conservationist by his boiling point.

Not many years ago polluters, timber-strippers, market hunters and various other resource abusers were downright arrogant. The Izaak Walton League and other national conservation organizations sprang almost full-blown out of public revulsion to their public-be-damned attitudes.

For a long time conservation needed heat at least as much as it needed light. Contempt and anger were probably the best weapons against arrogance.

Today there is a relatively more responsible attitude of basic resource-using industries toward the resources and the public. Matter of fact, it's becoming difficult to distinguish the "exploiters" from the "conservationists." The pitched battles of a few years ago have evolved into something approaching mutual admiration societies.

We conservationists have probably increased our life expectancy by controlling our blood pressure, but responsible students occasionally wonder if we still don't need our indignation.

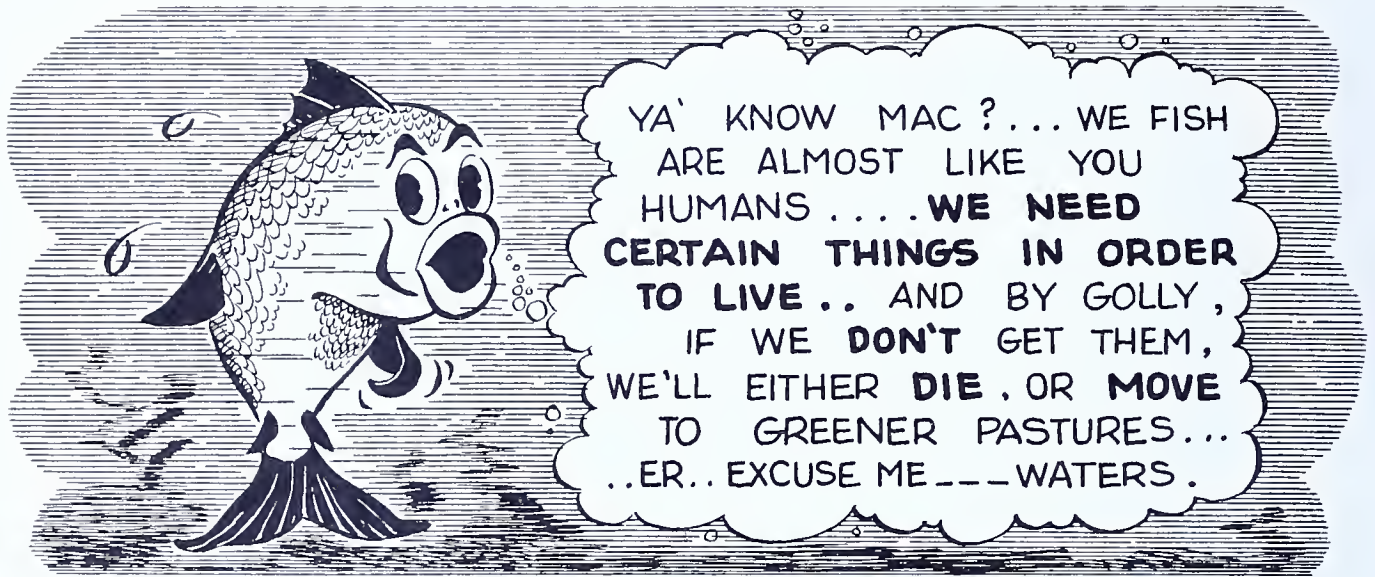
Today's differences of course, are more subtle; they are matters of degree. Let's say an industry 20 years ago provided no waste treatment at all, and was positively obnoxious about continuing to do so. In those simpler times, we would have justifiably blown our stacks—and probably got a start made toward pollution abatement. But today we may be faced with trying to improve the efficiency of treatment from perhaps 60 to 90 per cent; and it's plain to see that it is easy to get lost in a maze of technical and economic questions.

That's not necessary. The lay conservationist's instinct is as sound today as it was 30 years ago—the country needs, must have, and properly insists upon clean and usable water. The Izaak Walton League and other conservation organizations which represent the public must indeed be prepared to study those troublesome technical and economic problems—not to decide on *whether* we can afford or need clean water (although some agile minds find it possible to argue the negative) but to equip ourselves to speak responsibly on when, and how, and at what cost to whom.

The modern conservationist has ample reason for indignation. Abuse is even more reprehensible in the crowded world of today and tomorrow than it was yesterday. But he should also bolster his indignation with patient study.

And as many a chastised exploiter can tell you, nothing is more difficult to tangle with than an aroused public except an aroused *and informed* public.

—Frank Gregg, "Outdoor America"

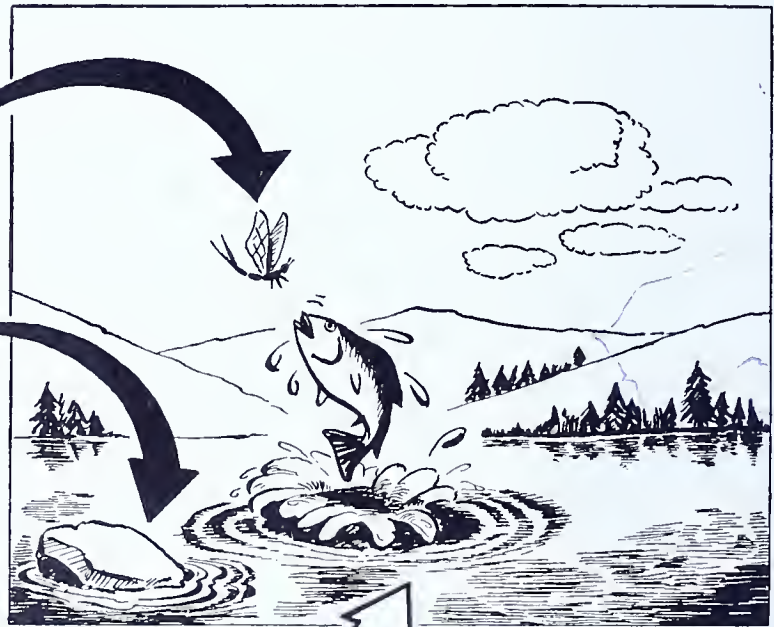


WE NEED :

1
FOOD

2
COVER

3
LOTS OF COOL , CLEAN
WATER



"IT'S A CINCH THAT WE FISH CAN'T SUPPLY THESE THREE INGREDIENTS... SO THAT PUTS IT STRICTLY UP TO-----

YOU HUMANS !

WHAT HAVE **YOU** DONE LATELY TO IMPROVE OUR ENVIRONMENT ?"

MAR 10 1960

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March 1960

National Wildlife Week, March 20-26, 1960

"Water . . . Cool, Cool, Water"

"Water . . . cool, cool, water."

This lament from a popular ballad symbolizes a need which is becoming more and more acute in the United States as our population continues to expand at an alarming rate. Arid parts of the west, which long have felt the pinch of low water supplies, are being joined by areas in the midwest, south and east in efforts to meet the growing shortages.

Many types of industries require huge amounts of water—in the actual preparation of products, for cooling systems and for the removal of waste materials. Municipalities use great amounts of water—for domestic services and waste removal. Agriculture consumes still other significant amounts of water, especially for crop irrigation. Water generates power. It provides navigational highways for transportation. It offers recreation for millions of people. Water, in other words, is a vital resource.

Many parts of the nation have reached the point where existing water supplies are critical, with surface streams either in flood stage or dry during portions of the year. Underground supplies are rapidly depleted. And areas formerly with adequate supplies, are viewing the situation with alarm as demands increase in proportion to mounting populations.

What are answers to these questions? The National Wildlife Federation and its state affiliates, sponsors of National Wildlife Week being observed March 20-26, offer these possibilities:

1. Clean up existing water supplies in order that they may be used repeatedly for a variety of beneficial purposes. These efforts would include control of pollution and siltation.
2. Safeguard existing water supplies through sound land cover practices and watershed programs which hold rain where it falls. Additional research into evaporation control and weather modification may be productive. Economical development of nuclear energy may reduce needs for hydro-electric power.
3. Seek new water supplies, through research into saline water conversion and development of additional sources.
4. Develop, through wise planning policies for obtaining the maximum public benefit from water supplies.

Truly, water is a blessing upon which our well-being, both individually and collectively, depends. The National Wildlife Week slogan, "Water—Key to Your Survival," explains why principles of water conservation should be given widespread adoption.

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THE COVER: Sucker Fishermen

Photo by Don Shiner

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There's One Born Every Minute . . .

By GEORGE W. FORREST



FISHING FOR suckers during March takes the edge off a long winter's wait.

SUCKERS . . . that is, son! And, add sucker fishermen. You'd think just about nobody would be interested worth a good hoot in a bag of bones with an underslung jib but it just ain't so. Thousands of guys love to wet the first line of the year fishing for suckers while frosting their posteriors doing it.

You gotta be slightly tetched . . . admitted . . . but

somehow neither wind nor rain nor snow nor paying the rent late prevents these boys with the early worm from shivering on a stream bank somewhere down on the farm. This is the time of the year farmers (who should know better) haven't a great deal on their schedules. The ground isn't fit to plow and sugarin' time is yet awhile away. So, the farmer and the

farmer's boy slosh along the greening winter wheat fringes to the creek down at the lower end of the pasture.

While sucker shushing isn't the elbow to elbow dash and verve of trout season you're likely to get a little competition for the deepest holes in the meadow stream. Here's where these suction succulent finnies hang out just apinin' for a fat worm to wriggle on down the eddy. And, you know if a guy had to use anything but worms I just couldn't think of a dad-gummed thing to use unless it would be a useless soggy hunk of devil's food cake with white icing.

Some gents insist on bringing these bags of bones home where they are sometimes run through a meat grinder, smallest blade. Then this mess is padded into a fish ball or cake, breaded and fried in hot deep fat. 'Taint bad, son, 'taint bad at all, all that stuff to the contrary.

But here we go gettin' the frying pan before the accessory or something like that there. Now, gentle readers (if there are any around), get out the old pole. Don't make a doggone bit of difference what kind it is, short, wide, thick or long, get it out. Next get to your favorite tackle emporium, latch on to a state fishing license (payola plug for which we receive a round burp), ask for some longshanked No. 6 to 8 hooks, a couple of wrap-on sinkers. Next ask the man if he has some worms, big fat ones . . . not big night crawlers. Few suckers like big night crawlers. Guess they ain't never learned to eat spaghetti and meat balls. But big fat worms, small crawlers . . . aaaaaaah . . . them's the babies that'll make even a big fat sucker wallow in spring. (How long has it been since you've wallowed?)

Now we're all set. Assumed you've got the longies, galoshes . . . yeh, galoshes, boots are too cold and we ain't agoin to wade partner. My rheumatism kicks up too much this early in the year. Give 'er the gun.

All right, here we are . . . get your big duff out and start whipping those worms around . . . no, no, . . . steal your way to that sucker hole and I mean the sneaky way. You ever been trout fishin' in late spring? Yeh, well go twice as easy. Those big snooted warriors are likely to hear you blow your nose. Dint you ever hear of suckers spooking? Well, they do. They got ears like nosy women in a beauty parlor.

Now creep along lightly . . . lightly I sez . . . cut the stubble jumpin' we ain't pitchin' hay. Yeh, now, son, gently and I mean gently, lower that worm into the water. Naw, for the love of Pete, you don't skip the bait over the water . . . them suckers don't know dry flies for beans. You gotta serve this worm up just right. How'd you like it if when you went into a restaurant the waiter bashed the soup right into your mug. You use finessy. Dip it, dip it, let the line slither (did you ever slither—that's a good word?) down like you'd set a filet mignon in front a vacuum cleaner. Now you can prop the rod if you wish in such man-

ner as to catch the least wind. If the rod tip rattles about you'll find the bait gone and the sucker too. These guys just oooooooooosh the worm into their fat faces and whoooooooooosh it down the gizzard pronto. Then they smack their lips . . . yeh they do . . . now don't argue, and begin to get a real appetite. You just served the celery and other rabbit food . . . now it's time to serve up the main course. Get out the fattest worm in the tin can. Thread it carefully . . . carefully, I said, son, lovingly onto the long shank of the hook and let a piece of the end to wriggle. Watch that rod tip . . . the slightest whimper, take it in hand and get the feel of the line as it pulsates. Yep, it throbs! That's Mr. Sucker chumping away on what he thinks is a T-Bone until you see the line going out a bit. Then raise the tip gentle and you should have hold of a fish, an old boot or a beer can.

No, you don't need to set the hook like you're expectin' to yank in Zeke's cow . . . just gentle thrust of



THE SUCKER fisherman is a hardy soul. Dressed warm and doing things he likes to do, makes for happy days astream.

the tip and yippee . . . whatyagot? A mess of bones? No, far more than this. You've just snagged the first fish of spring. A new world has opened up with the snagging of this fish. It's like being born again just like every other sucker fisherman and there's one born every minute, especially in early spring.

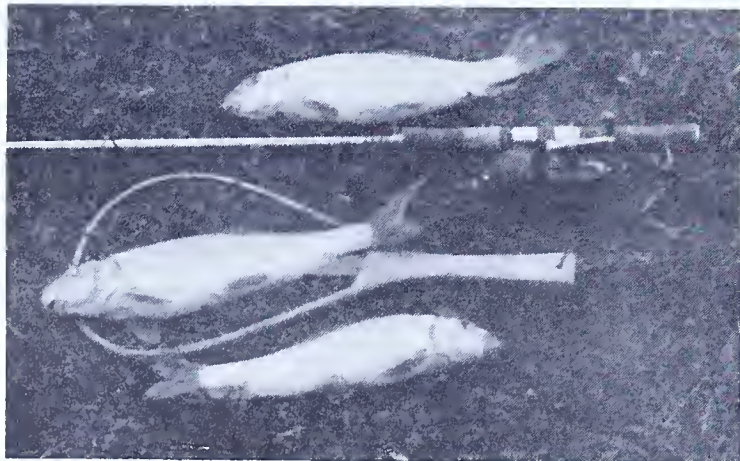
What . . . you don't think he was vicious enough? Well, whattya expect, one of them there fish the writin' fellers are always popping off about that take off like express trains down the crick? Oh, no, suckers ain't that vicious. Nobody'll ever call him Moby Dick. Mopy Dick, yeh, Moby Dick . . . NO!

Some fellas use two hooks, son. One short-shanked, the other long. I like either one but when you use those small night crawlers (reddish in color) a long

shank is best. You gotta eover the hook, boy, this is the "A" of the ABC's of sucker fishin'. Any bit of the steel the sucker sees, he flees. And, another thing. You just don't go out day after day and expect to yank in some fish. Suckers are just as cranky as trout. One day you may find them in the upper part of a pool, the next at the tail end. Other times you may have to move around here and there before you find them.

Remember, son, suckers, in early spring, are potting around upstream on their way to spawn. The females are usually heavy with roe and some guys think the roe a delicacy properly prepared. Sometimes you can get a lot of action, though, at a spot where the crick empties into the river or larger crick. Here, the slack water is more easily fished and often forms a pool where action is there for the dunking.

Yep, and son, you won't hear much clatter and fuss around the tackle counter about suckers or carp for that matter. The boys with the fancy duds and whippy poles just blat their gums about trout and bass. We guys are what you might call angling delinquents



TO THE VENTURESOME cold weather fisherman, these succulent finnes are a sight to behold.

but I doubt very much if any of 'em ever read Izaak Walton, their patron saint.

You mean you caint understand why I read this Ike guy when I can hardly read the papers? Well mebbe I ain't had much schoolin' at that but I can dig Mr. Walton right good. Just lemme quote (I learned this word from a politician who never sed anything hisself, just quoted somebody). But Ike (no, not our Pres.) used to make a big deal out of fishing

for suckers, roach and dace. You know what a roaeh is? Naw . . . not them dangblasted bugs we got around the sink back home. The roach is a fish, something like the sucker only a smaller fella all the way. The roach is a sort of simpleton of the fish outfit. Just like a carp is the water-fox for his cunning, the roach is the water-sheep . . . so says Ike Walton. He says the sucker isn't very dainty and most anybody knows this.

But there's somethin' else about early spring fishin' be it for suckers or just plain gittin' out. It's just be to fishin' and that's all I can say for it. I'm mighty proud to be an angler . . . that's what Mr. Walton called us . . . fisherman blessed, twice, thrice and then some more.

He thinks fishermen are happy folks just like those happy Fishermen long ago when the Saviour never reproved them for their employment or calling, as he did the scribes and the money-changers. And, secondly, he found that the hearts of such men by nature were fitted for contemplation and quietness; men of mild and sweet and peaceable spirits, as indeed most anglers are: these men, our blessed Saviour, who is observed to love to plant grace in good natures, though indeed nothing be too hard for him, yet these men he chose to call from their irreprovable employment of fishing, and gave them grace to be his disciples, and to follow him and do wonders; I say four of twelve.

And it is observable, that it was our Saviour's will, that these our four Fishermen would have a priority of nomination in the catalogue of his Twelve Apostles (Matt. x. 2-4, Acts i. 13), as namely, first St. Peter, St. Andrew, St. James and St. John, and then the rest in their order.

And it is yet more observable, that when our Saviour went up into the mount, when he left the rest of his disciples and chose only three to bear him company at his Transfiguration, that those three were all Fishermen. And it is to be believed, that all the other Apostles, after they betook themselves to follow Christ, betook themselves to be Fishermen too; for it is certain that Jesus found the greater number of them together fishing after his Resurrection, as it is recorded in the twenty-first chapter of St. John's Gospel v. 3, 4.

Sorry, son, didn't mean to preach a sermon, jist got carried away with what Ike Walton had to say . . . why so quiet, boy?

A Helping Hand

I took a walk along a lake
And chanced upon a man
Who was so poor, his total lot
Was one old rusty can.

His clothes were wrinkled and forlorn
His hat was awfully old,

And he was sitting on the ground
Near frozen from the eold.

I said, "My man, you come with me
And I will see you fed."
Then he replied, in quick response
"I'm a fisherman. Drop dead!"

—Day C. Yeage

Fish for Fun—Who?

By DANIEL G. REINHOLD

“Who would drive more than 150 miles to go fishing—where they couldn’t bring trout back to show their spouse that they had actually been fishing?”—Few did—They brought wife and family along.

“Was fish for fun utilized only by a few pros or purists?” “Was fishing any good?” “Did the local people like it?” “Was fish for fun a success?”—These queries and others like them stimulated the writing of this article. Overwhelmingly the answer is—

YES, fish-for-fun *is* a success! This experiment, initiated in 1958, concerns the fate of the fish in the stream and anglers’ success and opinions of this unusually regulated stream. Fall, 1959, studies indicated a high carry-over of native brown and brook trout with good growth and reproduction. The unexpected results were the great popularity and good fishing. It was originally thought that this type of fishing would appeal only to a few. I will attempt to give a summary of the highlights of the non-technical portion of the experiment on fish-for-fun.

The regulations in effect on the Left Branch of Young Woman’s Creek in northern Clinton County, are similar to regulated fly-fishing streams except that *no fish may be killed*. In addition to this the stream is now open to year-round trout fishing. This stream is located just north of North Bend which is on U. S. Route 120 in northern Clinton County, Pennsylvania. All access roads around the watershed have directional signs pointing the way. The Left Branch is located in the last area of Pennsylvania that has the flavor of wilderness; trout fishing is abundant and good in the area, and nearby Renovo claims the title of “The trout capital of Pennsylvania.” An earlier article by the author (PENNSYLVANIA ANGLER, September, 1959) gave a more complete description of the stream and the experimental studies being conducted there.

About 450 anglers were interviewed in 1959, and their personal statistics, likes and dislikes, and opinions concerning fish for fun were recorded. The interview was handled on a conversational level, and not as questions and answers.

The average angler or “Mr. Fish for Fun” cannot be singly defined. There were two distinct types of individuals commonly observed. The first was the type of angler who was expected to patronize fish-for-fun. The pro or purist type—confirmed fly-fisherman with Orvis rod, Hardy reel, self-tied flies—a perfectionist in fishing. About one-half the fans could be categorized here. Is this group a small minority of the angling public? Before fish-for-fun the author would

have answered—“yes.” Now, I sincerely doubt it. In further support of this—*Life Magazine*, December 28, 1959, in the article “How Do You Rate in the New Leisure” by Russell Lynes, defines the “Aristocrat” as a fish-for-fun addict. The “Aristocrat” was *not* classed on income or financial gain. If this group is large enough to be recognized in *Life Magazine* as a *basic* class of Americans, then there may be many more fans than were previously thought. The phenomenal success and continentwide approval of this plan, confirms the fact that fish-for-fun anglers are an important and growing group in the trout fishing public.



APRIL ANGLING? No! This is fishing in October on the Left Branch.

The other group of anglers that “funned” on Left Branch was the family group. These people were typical Americans—not purists nor experts—their only unusual attribute was to drive a station wagon and to recreate as a family group—camping, fishing—all together. Why did they come to this stream?—“So we’d have a chance”—many kids caught their first trout on this stream (so did many wives).

To have a chance was an important motivating force. Was it worthwhile?—The average angler (including wives and children) caught 2½ trout per hour in 1959! Enough said—don’t all come at once.

We watched an angler fishing a favorite pool one hot weekday—he was sitting on a log, casting over a pool of shy fish. His casting was a bit awkward and he didn’t move an inch when landing a fish. We approached closer and saw a pair of crutches resting at his side. Briefly this is his story—He had been badly hurt in a mine accident near Pittsburgh and was taught how to tie flies while undergoing a long re-

cuperation at the hospital. "Tried to fish around home (Pittsburgh) and was overrun by mobile anglers—couldn't compete. I read about this stream, and thought I'd have a chance." He caught his first trout on a fly that day, and his second, and third and. . .

The obvious popularity of fish-for-fun changed the minds of some local residents about this venture. Opposition has transformed into strong support. A few local "fish-for-fun" fans even tried it—"It was *fun*! I've had a cabin on Left Branch since the turn of the century when there were few roads and fewer fishermen—fishing is better now (1959) than it ever was then. This is the best thing that ever happened around here," was a statement made by a local resident—to me, to anglers along the stream, to all his neighbors, and especially to the local opposition. This man and his brothers are, through their convictions about fish-for-fun, putting this project in general favor in the "trout capital" area.

Are the original questions presented answered? If not completely, here are some summary statistics:



BOB VANKILK interviewing anglers while they stop for a picnic lunch.

Anglers were interviewed and car counts made on the Left Branch Young Woman's Creek (fish for fun), the Right Branch of Young Woman's Creek (regulated fly-fishing stream), and Hyner Run (open water). In terms of anglers per acre—Hyner Run, the open stream, had more than three times the pressure the *first week of season*, than the other study streams. This situation changed sharply, as the April average showed Hyner having one-half the pressure of the others. No big difference in pressure was noted between Left and Right Branch from April through July, however during the same period Hyner had fallen off to about one-fourth of the others. In August, Left Branch had three times as many anglers per acre as Right Branch. Hyner didn't have enough fishermen to count. Overall in 1959, fish for fun had 50 per cent more use than Right Branch, and Hyner had less than one-half as much as Right Branch. All of this in spite of—*No trout stocking* in the fish-for-fun stream in 1959!

The average catch was 2½ trout per hour on the fun

stream; this was much higher than on the other branch, where fly-caught-fish may be kept, and certainly the fun stream provided much more action than the average Pennsylvania stream.

The fun per hour catch was highest in April and June, and lowest in May (this May slump occurred also in 1958—no explanation is offered).

Anglers traveled an average of 157 miles to reach this new kind of sport in the Left Branch; they drove "low" priced cars—about half sedans and half 'wagons. Only three foreign cars and two "higher" priced cars were recorded.

They came from Chicago, New York, Washington, Philadelphia, Pittsburgh, Toronto—almost every major city in the northeastern quarter of the North American continent. Often a surge would come from one specific area—this would closely follow local outdoor writers' articles on this unusual fishing. Out-of-staters were usually inspired by national magazine articles.

Yes, fish-for-fun is a success in the eyes of the angling public. O. L. Wallis, an aquatic biologist of the U. S. National Park Service in Washington, D. C., has compiled a reference bibliography of fish-for-fun. Several commercial fish-for-fun-for-a-fee streams or ponds are now being operated in Pennsylvania. Connecticut may have fish for fun this year, New York state by next year—others will follow.

The best summary of the feeling, opinion, and future of *Fish for Fun* was made by Dr. Gustav Prevost, Professor of Fisheries and head of Quebec's Department of Fisheries. "At present we (Quebec) don't need *fish for fun* as we have many heavily populated brook trout ponds and streams. But we will *soon* have *fish for fun*, because we need its philosophy." Many less far-sighted fishery workers have called fish-for-fun a *waste*—a waste with no harvest. Yes, their creels are empty, but their hearts are full. The young girl smiling at you at the beginning of this article shows the valuable harvest being attained—FUN.



DR. JOHN S. MEST of White Sulphur Springs, Mont., cooking chow after a good day's sport on the Left Branch campsite at Sprout Hollow.

Let's Go Boating

Are you a Launching Ramp Hog? You've long been familiar with the term "road hog" . . . well, there are launching ramp hogs, too.

Suppose you plan to launch your boat on a busy summer Sunday afternoon, and as you arrive at the public ramp, you notice several boaters pacing impatiently around their trailer-borne boats. A closer look presents a comical yet frustrating picture.

Joe Doakes has backed his trailer to the water edge of the ramp; wife and kiddies are trotting back and forth with armloads of various and curious items known only to boaters and tossing them haphazardly over the sides of the boat. At last the confused procession stops and Doakes . . . no, he has clambered back out of the car; "better check the spark plugs, meant to do it all week, just never got around to it!" They seem ok . . . back to the car? . . . "no, better make sure no shorts have developed in the starter switch, haven't had her out in a good while." And then with bouncing good humor and studied proficiency he stands head on end . . . "no holes" . . . that's encouraging. Can't be too careful, you know. He's back in the car, and at last . . . but what's this? His wife is climbing over into the boat. Forgot to check something else, I guess. Oh, no, . . . he's backing down into the water . . . maybe he doesn't know she's in there! She waves gaily to the kids . . . now she's afloat, the wife and the boat; she signals the "Captain" ahead, and he pulls up out of the water bumping the stem of the boat in the process.

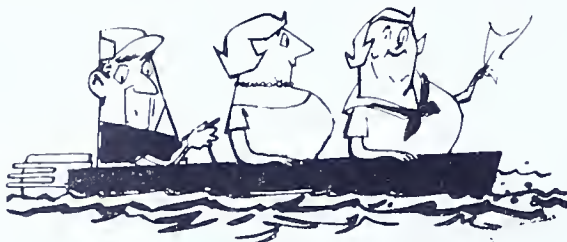
Now the lady sailor is leaning over the side of the boat to toss a line to Junior on the dock, the boat is bobbing around in the wash of passing boats, and the exposed foot of her tilted motor has just been saved from ramming another boat by the quick acrobatics of said irate boat owner. She looks over her shoulder and calls "thanks" . . . we couldn't hear what he said! Finally she gets the line to Junior, but as he pulls his end, she loses hers (end of the line) with much blame on the small crew member. By this time, a paddle seems like a good idea; bathing suits, towels, crackers and shoes begin flying in the air . . . thank goodness, he's got the paddle. She's sitting in the stern trying to paddle forward and getting nowhere fast, the bow

Remember, Folks!



swings around, and she is sitting crosswise of the launching area. By now she is a menace to everything within floating distance, so a good guy who has been watching the incredible display while waiting his turn on the ramp, gets his boat hook onto her bow cleat and pulls her alongside the dock, just in time to be greeted by "Captain Doakes" with "All set?" Let's don't tell him . . . just let them get . . . out of here!

Unfortunately, and as is to be expected, our bungling skipper is just as inept on the water as he is on the ramp, and it takes a good ten minutes to get all of



DON'T OVERLOAD

... MATCH YOUR BOAT AND MOTOR ...
CHECK THE OBC PLATE ON YOUR BOAT

*Remember, seats do not
indicate capacity.*

the tossed paraphernalia out of the way so that he can pour gas into the tank, let the motor down and connect the gas line and prime her. All this time, the members of the crew are hanging onto the dock with their bare hands, and Mother is admonishing the kids for letting the hull get scratched. AND all this time, other boaters are still waiting impatiently to launch their boats.

At long last, they are ready to get underway. "Push her off," the Skipper cries. "Why won't this darn thing start? . . . there . . . hey, get that rowboat out of the way, can't you see I've got a motor on this thing?" And away he goes full throttle. Kids, wife and gear all mixed up on the floor boards together! And every boat within fifty feet getting tossed against the docks by his wake. Good riddance . . . we'll get his schedule before we plan to launch our boat again!

—Georgia Sportsman

ANGLER QUIZ

By Carsten Ahrens

Amphibians You've Probably Met

A. Tree Frog

B. Leopard Frog

C. American Toad

D. Bull Frog

E. Hell Bender

F. Spotted Salamander

G. 4-toed Salamander

H. Mud Puppy

I. Slimy Salamander

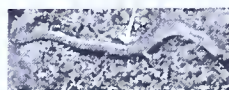
J. Red-spotted Newt



Bull Frog



4-toed Salamander



Red-spotted Newt

- _____ 1. This one often wanders far afield but always returns in spring to standing water to lay its necklace-like eggs.
- _____ 2. An amphibian that is commonly used by man for food. It is uniformly colored.
- _____ 3. One of the first to contribute to the spring chorus. It's sometimes called a pceper. Has adhesive pads on its toes.
- _____ 4. Usually stays within a leap or two from water which means safety. Its color pattern makes for good camouflage. Eggs laid in masses.
- _____ 5. 2-4 inches long. It doesn't have 5 toes on hind foot as most salamanders do. Marble-white belly spotted with black.
- _____ 6. 3-4 inches long. It's a non-slippery salamander red or orange spotted above and below. Often found far from water but in damp habitats.
- _____ 7. Grows to 5-7 inches. It's shiny black with white flecks. You won't forget this one if you pick it up, for its stickiness clings to your hands.
- _____ 8. 6-7 inches long. Blackish above, lighter below, with polka dots of yellow or orange.
- _____ 9. To 18 inches long. An entirely aquatic salamander with external gills (they resemble a cape) all its life.
- _____ 10. Grows to 24 inches. No external gills. Aquatic. Our largest salamander.

ANSWERS

A-3; B-4; C-1; D-2; E-10; F-8; G-5; H-9; I-7; J-6.

SCHOOL DAYS



THE ELEMENTS and use of a chemistry kit used to analyze water are being described by Gordon Trembley, chief biologist of the Fish Commission. Seated around the table from left to right are: Warden Lester Ogden, Clearfield County; Warden Trainees Dave Daniels, Allegheny County, and Frank Kulikosky, Cambria County; Wardens Tony Discavage, Armstrong County, and Steve Shabbick, Wyoming County; Biologists Keen Buss, Dan Reinhold, Trembley, DeWayne Campbell and Art Bradford; Warden Ken Corey, Warren County; Trainee Jim Yoder, Luzerne and East Sullivan Counties; Warden Paul Martin, York County; Trainee Bernie Ambrose, Elk County, and Warden Thomas Karper, Cumberland County (back to camera).

It was back to school for ten members of the Fish Commission's warden corps for a ten-day technical training course in mid-January at the Commission's Benner Spring Research Station near Bellefonte.

In a repeat of the training session inaugurated last year primarily for warden trainees under the direction of Gordon Trembley, chief aquatic biologist, the group waded through courses in water chemistry, lakes' and streams' limnology, warm water fish management, identification of fish food organisms, scientific nomenclature, the natural history of fishes, farm pond management, lake and stream improvement, fish diseases, practical fish culture, the results of research, fundamentals of fish conservation and fish identification.

On the staff of instructors were Chief Biologist Trembley and Biologists Arthur Bradford, DeWayne Campbell, Jack Miller, Dan Reinhold and Keen Buss

of the Fish Commission; Dewey Sorenson, chief of propagation and distribution; and Thomas F. O'Hara, chief engineer of the Commission staff; Robert Wingard and George Harvey of Penn State University.

The class was composed of wardens and warden trainees from every district of the state. While the school was compulsory for the trainees, the regular wardens were selected by their respective supervisors from those who asked to take the course. Under similar circumstances, six wardens and six warden trainees attended the school last year.

It is the plan to continue the program each year to convey to both the trainees and the wardens the most recent and scientific advancements in fishery management. In addition to the technical course, the entire warden force each fall is schooled in a formal five-day course during which the emphasis is on law enforcement and other closely allied field activities.

The Challenge of Conservation

By MYRON E. SHOEMAKER

Late in the eighteenth century, Edmund Burke, that eminent British orator, statesman and writer, said: "Example is the school of mankind, as they will live by no other."

Today, the abandoned farms, deserted and dilapidated buildings, automobile graveyards, ghost towns, filth-laden streams, deforested hills, eroded soils, vanishing wildlife and its habitat surely reveal the examples we have followed.

Mankind has moved about the nation like so many men on a chessboard in order to be in a better position to advance toward goals of material gain regardless of cost to themselves or others. Individuals, industry and government all have played their part in the scourge that has devastated the good earth. Our motto has been the guiding light: "Monkey see, monkey do."

If we take a panoramic view of our cosmopolitan people who have exploited one resource after another, it reveals just two things: A trend toward local insufficiency for every community in America, and an increase in the total area of insufficiency.

We have boasted about being the greatest country in the world because we have managed to survive every social and economic eruption that has threatened to upset our democratic ways of advancement and advantages. We have accepted every challenge to oust drudgery, disease, crime, poverty and ignorance from our body politic through scientific investigation, religious tolerance, culture and education. We have lived in luxury in our advancement of civilization, expanding economy and social progression which have carried us toward human health and happiness. And yet we have failed miserably in meeting our moral and patriotic obligation and responsibility toward security of the future because of the relentless mismanagement of the very things that have made our progress and prosperity possible—our natural resources.

What then must we do? We have no place to expand to secure additional resources. With what we have left we must meet the needs of our own people as well as the war-torn countries of Europe who look to us for help, and get it. We must furnish food, clothing, shelter and recreational areas for our own people, and share the same things with the millions in other nations.

True, we are strong as a nation because of our supply of resources. We won a war because we had a vast supply of resources and the will to convert

them into weapons to win the war. But we must not lose sight of the fact that military strength alone will give us security, for our security lies in an endless supply of natural resources to feed the wheels of industry and the mouths of nearly 180 million hungry men, women and children.

The acknowledged father of free education in the United States, Thomas Mann, said of education, "Its general purpose is to preserve the good and to repudiate the evil which now exists, and to give scope to the sublime law of progression."

If there has ever been a statement that fits conservation education and its interests and problems any better, we have never heard of it. For conservation education was conceived to protect the good earth and its resources, to repudiate the evils that have exploited them, and to give scope to the sublime law of progression by awakening the American people to the fact that progression is based entirely upon an endless supply of resources to meet the needs of the people.

What part, then, shall conservation education play in the future welfare of our wildlife and other resources which must be considered together in a long range program?

In the first place I seriously doubt if any person has the right to use the word conservation unless he has a definite creed, for by its very name, by all who understand it, it means a better way of living. Never, since the very beginning of the use of the word, has there been a time when it has been more important. And never has there been a time when its principles and practices should be put into use throughout the nation.

Let us all understand very clearly that there is a great conflict in our nation between men who are free to use the great out-of-doors and the forces of nature. Let us be perfectly candid about the traditional practices of the past that still prevail in the world we live in and may go on into the next few years that lie ahead.

The exploiters and wastrels long since declared war on nature, and they have by no means been idle since that time. And let's not underestimate their strength. Their strength and achievements along certain lines have been far superior to our ability of restoration and conservation accomplishments. We are outnumbered at the moment, and we must admit that fact.

The fundamental problem at the moment is simply

this: How can we reverse the trend toward the restoration and conservation of our resources and get down to the business of educating the people to help? Are we, ourselves, willing to do something about it? Are we willing to give of our time, talent and effort? Are we willing to make sacrifices when and if emergencies rise? And emergencies are already here with the water problems in some areas of the nation.

What kind of program with a purpose must be founded and developed into a working instrument?

We must face this problem with a solid front. We cannot retreat from it. It cannot be solved by setting up committees, commissions and procedures that take time and study and long scientific investigation. These things will help, but immediate action is needed to solve some pressing conditions at the moment.

How can we convince the American people that this exploding population and recreational revolution that is bursting upon us calls for immediate and concerted action of all the people?

We will never solve the problem by the talk fests which we have been engaged in for years. Extended periods of trial and error, searching for proper methods and materials, and the time to apply them will not solve the problem. Pleasant promises must be replaced by performance to close the gap between ob-

jective and performance, with the people as a whole sharing some part of the responsibility.

We must immediately rededicate ourselves as modern day patriots dedicate to a cause and never retreat from our ideals even though immediate success is not forthcoming. We must pledge more to the youth of the nation, for the youth of the nation will need substantially much more wisdom than we have used, and much more than they will have if we fail to accept the challenge and help them.

And quality of wisdom and youth must be the best!

We have men who are well qualified to instill the wisdom in the fertile minds of the youth. We have the quality of human resources in the youth of the nation—nearly 40 million of our boys and girls who are interested in the mysteries and wonders of the great out-of-doors. We have the opportunity and the ability to do an outstanding job with the materials at our disposal by helping them develop their interests in the living and growing things out-of-doors and how to use them.

The time has come to stop playing with our resources and come face to face with reality that the challenge of conservation is not something to be pushed aside while we busy ourselves with gathering material gain.

A Proud 12-Year-Old!



JOHN BUCK, JR., age 12, is the proud possessor of this nice string of 15 to 19½ inch pickerel. John, Jr., the son of warden supervisor Buck, of Lock Haven, caught the fish while fishing through the ice of Black Moshannon Lake.

Smoked Carp

Recently while on a hunting trip Bill Daugherty, fishery manager from Conneautville, ran across a group of sportsmen from the Pittsburgh area who were under the impression that carp was not fit for human consumption. This belief undoubtedly stems from the fact that carp can survive in waters that would kill other species and are known among anglers as a rough fish. For years these men, and many others, had been catching carp and then tossing them back into the river.

Bill happened to have some smoked carp with him and invited the sportsmen to sample some of the fish. They pronounced it as good eating.

To dispel any doubts on the subject let us say that smoked carp is a tasty dish. If you are interested try the recipe that follows:

Dress and scale fish (1-2 pounds). Rub inside and out with coarse salt. Hang to drain for four hours. Rub well into each fish the following mixture, sifted together, in the proportion of ¾ ounce table salt, 1 ounce black pepper, 2 ounces sugar. Lay fish on a platter, cover with cheese-cloth, and leave for two days. Drain, rub well with table salt, then wipe dry. Spread the fish open, bracing it with skewers if need be, and hang over a corncob or bark smudge for several hours until well smoked.

Reappointed and Confirmed

The following four members of the Pennsylvania Fish Commission were recently reappointed by Governor David L. Lawrence and confirmed by the Pennsylvania Senate.



John W. Grenoble

John W. Grenoble of Carlisle, Cumberland County, whose reappointment has been confirmed to serve until the second Tuesday in January, 1966. He represents the sixth district which embraces Dauphin, Lebanon, Cumberland, York, Perry, Adams, Franklin and Lancaster Counties.

In addition to being a successful businessman, Mr. Grenoble is an accomplished outdoorsman and is held in esteem in the Southern area of the state.



Gerard J. Adams



Joseph M. Critchfield

Joseph M. Critchfield of Confluence, Somerset County, whose reappointment was confirmed to serve until the second Tuesday in January, 1966. First appointed to the old Board of Fish Commissioners by former Governor Arthur H. James, Mr. Critchfield was later appointed to the present Fish Commission by former Governor George M. Leader and now reappointed by Governor David L. Lawrence.

He represents district four, consisting of Cambria, Somerset, Blair, Bedford, Huntingdon, Fulton, Mifflin and Juniata Counties.

Mr. Critchfield's appointment only reflects the confidence of the above area, where he is held in high regard by hosts of loyal friends.

←

Gerard J. Adams of Hawley, Wayne County, whose reappointment has been confirmed to serve until the second Tuesday of January, 1968. He represents district number seven, which includes Susquehanna, Wyoming, Luzerne, Lackawanna, Carbon, Wayne, Pike and Monroe Counties.

A popular sportsman, businessman and civic leader, Mr. Adams' appointment was received with acclaim in the Northeastern area of the Commonwealth.

Raymond M. Williams of East Bangor, Northampton County, whose reappointment has been confirmed to serve until the second Tuesday in January, 1968. He represents the district which includes Berks, Bucks, Chester, Delaware, Lehigh, Montgomery, Northampton, Philadelphia and Schuylkill Counties.

Co-owner of the Green Walk Trout Hatcheries near East Bangor, Mr. Williams is held in high respect by the sportsmen in his district.



Raymond M. Williams

National Wildlife Week 1960

State Wildlife Week Chairman Is Selected

Seth L. Myers, of Sharon, has been named statewide chairman to direct the 1960 National Wildlife Week program in Pennsylvania. The appointment was announced by the Pennsylvania Federation of Sportsmen's Clubs which joins with the National Wildlife Federation in sponsorship of this educational campaign each year.

Walt Disney, widely-known producer of the "True Life Adventure" nature films, again will serve as national honorary chairman of the observance which has been set for the period of March 20-26, coinciding with the first day of spring.

Mr. Myers stated that the 1960 observance of Wildlife Week is intended to highlight problems involved in water conservation. Slogan for the observance is: "Water—Key to Your Survival."

"Water is one of our basic resources," he pointed out. "Without water, no living thing can survive. Man's very existence is dependent upon soil and water which, when combined properly with sunlight and components of the atmosphere, produce all he eats and drinks and many of the things he uses for clothing and shelter."

Mr. Myers observed that many parts of the nation face critical water shortages and others are rapidly reaching that stage. "Demands for water will increase in proportion to the population," he pointed out.

"It is vital that existing water supplies be safeguarded for the wisest possible use," he concluded. "We must also clean up pollution, siltation and other factors which damage or destroy water for beneficial uses. The possibilities of developing new sources of water should be explored."

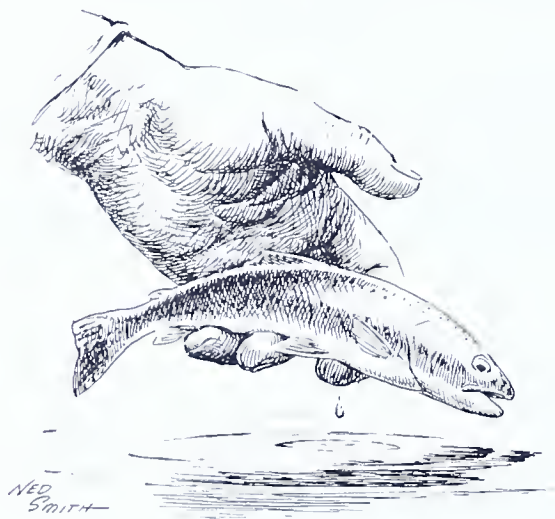
National Wildlife Week, first proclaimed by President Franklin D. Roosevelt in 1938, is being observed throughout the nation. Working through more than 2,000,000 individuals who are members of National Wildlife Federation affiliates, chairmen in each state are organizing local educational campaigns to alert the general public to complex and diverse water conservation problems. Educational programs during the week will take the form of talks, exhibits and demonstrations and special newspaper articles and radio-TV interviews. Governors and mayors in many states are issuing appropriate proclamations.

Me Too, Doc!

By DON NEAL

After talking with many fishermen, both native and visiting, in the north tier section of Pennsylvania, and learning that they are overwhelmingly enthusiastic about the "Fish for Fun" project on Young Woman's Creek, I have come to the conclusion that the time is ripe to revive one Doc Moore's "Never-keep-a-stinker" Club. For if we are truly on the threshold of putting "sport" back in the meaning of the words "sport-fishing" and "sportsman," especially as they pertain to trout fishing, some of the old Doc's wry and witty observations could undoubtedly speed us on our way.

Take for instance, this most common reply of Doc's, when someone would chide him for not keeping the small but legal-sized trout he caught. In his slow drawl, Doc would say, "It just seems to me that so many of what you fellows call legal trout are too small to fry—and a damned-sight too young to die."

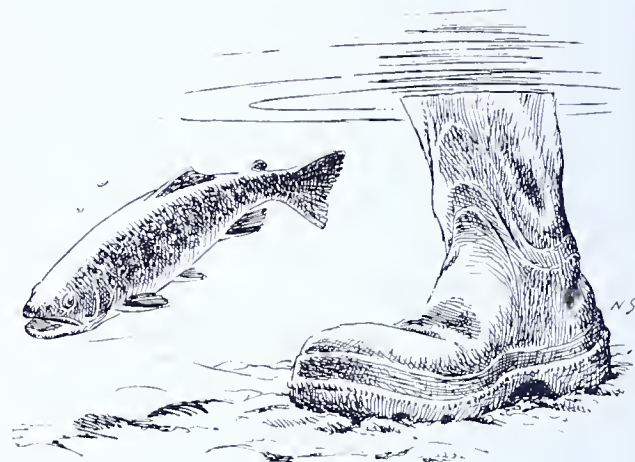


Then Doc would give the fellow a knowing look that fairly snapped over the tops of his lowered steel-rimmed glasses.

More often than not, this brought a kind of forced and embarrassed laugh from the "chider," and nine times out of ten got a new member for Doc's unique angling club.

"Unorthodox" would be another word for it. For in Doc's club there were no formal members and even Doc himself never knew who belonged to it and who didn't. One became a member, or ceased being a member whenever he felt like doing so. And it was a club that had neither by-laws nor constitution to befuddle its purpose.

The whole idea was as simple and unpretentious as Doc himself and as the club's name—"Never-keep-a-



stinker" Club, which had been adopted by founding members out of one of Doc's favorite remarks, to wit: "Anything but a sizable trout does nothing but 'stink up' a frying pan!"

As you might imagine, Doc Moore was a character of the "unforgettable" type. Being a busy practitioner and living in the Philadelphia area, he never did get enough fishing to fully satisfy his yen on the streams he enjoyed most—Kettle Creek, Young Woman's Creek, and the Slate Run area of Pine Creek. Yet it happened often enough for him to become one of the finest wet fly fishermen of my acquaintance. Further, few fishermen could reconcile his evident enjoyment from fishing with his practice of releasing everything but sizable trout. While others were doing their level best to creel anything legal-sized, Doc was content to catch and release, catch and release, until a real trophy came to net.

And when one did, it would be killed and cleaned on the spot, carefully washed in the stream, then placed, reverently, in fresh grass or fern with which Doc lined his big wicker creel. If that ritual took place more than three times a day, it was decidedly unusual, for with each fish caught, Doc's minimum size requirement was advanced a couple of inches.

Understandably, Doc took a lot of kidding about putting back trout so that other fishermen could catch them. He was often reminded that no one was being so considerate of him.

On one such occasion, when five of us were sitting around a fire near where the Cross Fork enters Kettle Creek, Doc riled a bit and explained his "odd" philosophy in this respect. To this day I can't kill a fish without recalling Doc's lecture by that fire.

It went something like this: "Chris," Doc said, ad-

addressing the fellow who had been kidding him, "it doesn't matter to me if you do catch the trout I return to the stream. I don't fish for fish alone. My first interest, of course, is to have the fun of catching trout. But after that I try to prove myself. It has been said that the badge of civilization is man's ability to restrain himself. If this is so, returning a trout to the water can be a great test of one's 'badge'—a man's character."

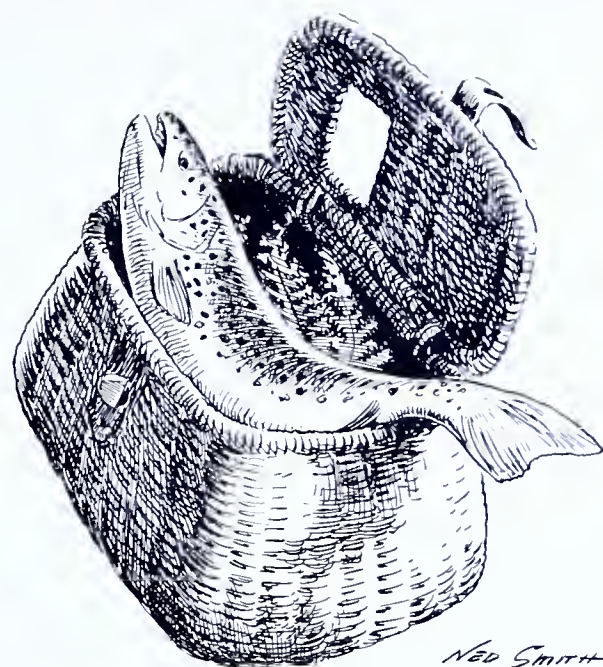
Doc looked into the fire for a moment and his serious mien melted into a mischievous grin. "But I'll tell you something, Chris," he went on, "all it takes to make a complete savage of me is a sizable trout in my net."

Sermons, however, were not one of Doc's usual proclivities. Most of the fishermen who were influenced to accept the precepts of the "Never-keep-a-stinker" Club came to their convictions through Doc's unquestioned ability as a trout fisherman and the example he set for them. And although, to my knowledge, no one ever made a count of Doc's disciples in the region where his influence was greatest, I know there were many. It was only after time took its toll from the old boy and he quit his favorite streams, that the "Never-keep-a-stinker" Club, in the course of years, declined to a hazy memory.

I was only twelve years old when Doc gave his sermon by the fire. That was forty years ago. Nevertheless, the greater part of my fishing life has been influenced, in one way or another, by the Doctor and some of his ardent followers, among whom were those responsible for my meeting him.

There were periods when I went all out for the "Never-keep-a-stinker" principle, one of five straight seasons' duration. Being of less stern stuff, however, or maybe it was immaturity, there were times when I slipped badly, almost coming to the point of stretching a short one to make it reach the six-inch mark.

Nevertheless, there is a challenge in returning a trout to the water. Doc knew what he was talking about when he said it was a great way to test one's character. I question whether anyone with a legal trout at hand, before releasing it, fails to experience two conflicting sets of emotions—the desire to "show-off" one's prowess as a fisherman vs. the inner and



most often lonely satisfaction of being a true sportsman.

But regardless of which prevails one will have experienced a soul-testing that is not common to everyday life.

But we don't fish to gain soul-testing experiences. neither is the main purpose of fishing to provide meat on our tables. Somewhere between these two extremes, perhaps taking some of Doc Moore's philosophy and mixing it generously with the satisfaction of bringing home a heavy creel, lies the point that not only will give the most enjoyment to most trout fishermen, but start them on their way to full and permanent membership in Doc's club.

As for me, I've got it made, I think. But if I ever feel myself slipping, I'll hie myself to the Young Woman's Creek project which furnishes so much pleasure because sport is assured as all fish caught are returned, stinkers and otherwise.

In fact I'm sold on the project, in part, because every time my memory tricks me into hearing Doc Moore say, "I'll never keep a stinker," it's there to help firm up my resolve and enable me to answer right back—"Me too, Doc!"

Movie Available to Clubs

The nation's spin-fishermen can avoid a lot of woe by following one simple rule: "When tying knots with monofilament spinning line, make five or more turns around the standing part of the line."

The point is made in a 15-minute color movie, "Hook, Line, and What Knot?" which is being loaned by Du Pont to rod and gun clubs and other interested groups.

The film explains how to tie three useful mono-

filament knots in ways which will retain up to 100 per cent of line strength. The knots included are the "improved clinch" knot, used for tying terminal tackle to leaders; the "blood" knot, a favorite for tying monofilament to monofilament; and the "improved end loop" knot, recommended for making a loop at the end of spinning line and leaders.

Copies of the film are available on request from the Du Pont Company, Motion Picture Distribution, Department A, Wilmington 98, Del.

Young Man... Careful With My Gear!

By ROBERT R. BOWERS

Last fall, just before the end of the hunting season, somebody got into my station wagon and borrowed my shotgun. They didn't ask, and to this day it has not been returned. Who it was who helped himself to this ancient but treasured piece, I don't know. It would not, however, surprise me for him to be listed among the multiple hunting accidents this year. After all, hunting with a stolen shotgun and courting another man's wife lead to the same conclusion—trouble.

Hardly had the wound begun to heal from this first theft, when along comes another individual of the same breed and he lifts my fishing tackle. It happened on August 20 of this year. The fishing equipment was taken from the same station wagon parked in the same location—right in front of the house. I had locked my car at 11 p.m., but apparently this fellow dropped by shortly before that time to pick up the merchandise. The car sat by the driveway, not 30 feet away from where I sat on the couch watching TV. The set was blaring away when it happened, and unsuspectingly I yelled at my old beagle to "shut up," when he started bellowing shortly before ten. Perhaps he was trying to warn me, I don't know. He howls so much, his howling again was kind of like the boy who cried "wolf" once too often.

In my opinion, the man who will steal another fellow's fishing tackle is the same breed of man who used to shoot old-time cowboys in the back while they were in the process of taking a bath. Anybody who knows his westerns will tell you that it is bad enough to shoot a cowboy in the back, but to shoot him before he gets his boots on shows a complete lack of chivalry.

Until now, that type of logic had little meaning to me, a man of modern upbringing. Since August 20, however, I know exactly how the old-time Westerner felt.

Where originally I felt sorry for 3 of my good friends and fishing companions, who lost their fishing gear, I now envy them. Coming down an especially swift stretch of water, their boat upset, pitching them all into the swift current. Along with them went some \$200 in fishing gear. But, according to the thinking of fishermen, this is a fitting and honorable way to lose tackle. It is similar, in spirit at least, to losing a favorite plug to a giant muskie that is so big he snaps your line or even breaks your rod. Such sacrifice is small in the light of the "big tales" one can tell thereafter. And while lamenting one's loss of valuable gear, in the depths of some great fishing river, he can take comfort in the fact that it was lost "in the line of duty."

Not so for me, however, for what is there to brag about when confessing that neither large nor fast

river was reckoned with. What is so cold and undramatic as the confession that "somebody filched my gear" while I was watching the late news on television—hardly worthy of a fisherman with any pride at all.

To add to my burden, one week before the incident I had meticulously put my fishing tackle in order. During a lull in the fishing, I had spent an hour cleaning out and straightening up the tackle box. This all goes to prove that adage that the man who keeps a neat tackle box is most assuredly asking for trouble. Previously, plugs, flies, hooks and such had been placed in the box with little thought to the next time I'd use them. This has been the story of my fishing life, but still I usually caught fish. Now, once in a lifetime, I clean up my gear and everything was in place for somebody else. The man who stole that box could probably get a better price for my equipment since it was in such fine shape.

Perhaps the man or boy who got those treasures was able to sell them for \$40-\$50, but replacement of them can never be made. A 25-year accumulation of plugs, flies, spoons, spinners and other knickknacks is hard to come by. Perhaps I can substitute the lures with brand new ones, but the sears on the pikie-minnow made by an angry South Branch small-mouthed bass cannot be purchased. Nor can the chewed up feathers on my handmade brown hackle fly which a granddaddy rainbow once gobbled up be replaced. The experiences each plug and lure represented cannot be bought. They are gone now, and with their loss perhaps the memories will fade too.

Along with the lures went much more than equipment—a tackle box, my first one and only one I ever owned; an automatic reel my brother gave me for graduation several years ago; a Fiberglas fly rod, one made for bass of the lunker size and one which had matched wits with dozens just that size; my boy's brand new life jacket we got for him to use when swimming or fishing; and lastly, my crow caller. I don't know that it had any sentiment to it, but it sure could call crows.

The hurt from such an incident is not so much from material loss, but from the thought that there are people who pass your way each day, perhaps whom you have spoken to often, who could destroy in one hasty moment experiences you had taken a lifetime to build. Inside that tackle box, for instance, was a long, needle-like, green and yellow plug. I wouldn't have paid five cents for it if fishing were my objective. Yet, nobody could have bought it from me. It belonged to Mike, my six-year-old son, who was waiting patiently

to grow old enough to learn to cast that plug, and he left it in my hands for safe keeping. I haven't told him about that lure yet; perhaps he'll forget it completely in time. Nevertheless, if he thinks about it someday and asks—what will I say?

One thing I'll tell the man or boy who got my fishing gear—don't bother fishing with it. Anyone who has ever fished will tell you that. Fish just don't strike on stolen lures nor are they fooled by filched flies. And young fellow, and I do assume you're a young man, watch

your step when treading upon slippery rocks with your newly possessed rod and reel, for fate may lay a heavy hand upon you. I wish you no other fate than to the "fisherman's luck" which goes with stolen gear. It is said, and wisely so, that for each day a man spends fishing, he may rightfully add another to the end of life's span. Such wisdom cannot be questioned among the honorable rank and file, but beware of the other proverb which states in effect that the opposite is true among fishermen who fish with ill-gotten gear.

More Walleyes From the Allegheny



Pennsylvania definitely is not "fished out." Clare Seely of Oil City, a pensioner who fishes every day at Rockmere, about three miles up the Allegheny River from Oil City, catches walleyes regularly. "I'm afraid I'm going to clean the river out," he says. Seely's pike above weighed eight pounds, total. They were caught on Friday, December 18, 1959. He uses four-inch long run minnows, preferably shiners. The minnows are sinkered heavily and thrown out into the river's current, usually near the mouth of a stream. "I lose a lot of hooks, but that's the way to catch walleyes. Motorboats and "saturation" of fishermen are no problems on cold winter days.

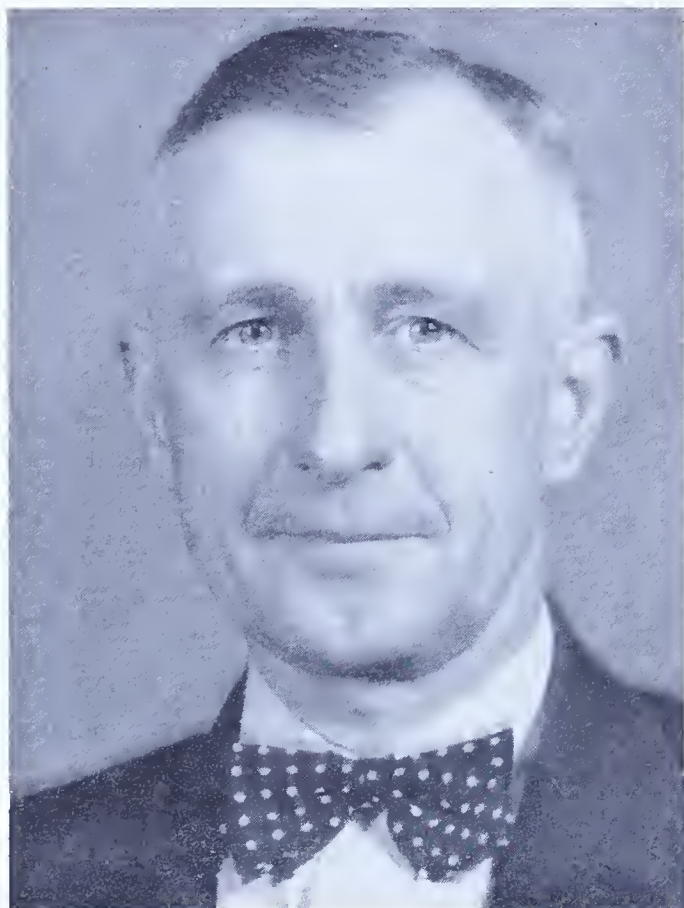
Channel catfish usually deposit their eggs in obscure, protected places in a stream—under overhanging rock ledges, deeply undercut banks, underwater muskrat runs and hollow logs.

Grand Champion—Could Be!



Wow, Dad! Isn't he a whopper! Timmy Keely, son of I. Dana Keely of 1441 Chestnut Street, Franklin, admires the proof that his father is one of Pennsylvania's luckiest anglers of 1959. Or the most persevering. On Sunday, December 6, in fog and rain, while other state fishermen watched the Eagles and Steelers in profootball action, Dana Keely dunked a minnow in the Poorhouse Eddy of French Creek about ten minutes drive from Franklin, Venango County. His reward came in this 31½ inch, 12 pound, 11 ounce walleye which he landed after a 20-minute struggle. The pike was a female with approximately four pounds of roe. Keely has filled in an affidavit and entered his fish in the Field and Stream Fishing Contest. Keely's walleye restored faith in French Creek as a producer. The stream got two bad doses of pollution, at Meadville and Franklin, in 1959.

Britton Heads N.E.U.S. Enforcement Chief's Assn.



Mr. Britton

W. W. Britton, Chief Enforcement Officer for the Pennsylvania Fish Commission, was honored in Providence, Rhode Island, in January when he was elected to the Presidency of the Northeast Conservation Law Enforcement Chief's Association. This organization was formed early in the 1940's. The purpose of the organization is to transmit to each of the state's conservation officers, the latest techniques and proven methods in conservation law enforcement.

Britton has been recognized by other states for achievements in his field. Having recently served on the State Civil Service Commission for the state of New Jersey to select conservation officer candidates for that state, and by the state of Maryland for taking part in the apprehension and destruction of a boot-leg black bass ring operating within the two states, illegal sales of this game fish amounted in excess of \$18,000.00. The conservation officers of the two states with assistance of the U. S. Game Management Agent working as a single unit proved to be the combination which destroyed this activity.

On February 1 of this year, Mr. Britton rounded out eleven years as chief enforcement officer for the Fish Commission. With prior service as a fish warden and game protector plus six years teaching school, gives him a total of thirty-five years as a public servant.

Junior Conservation Camp!

Plans are complete for the 13th annual Junior Conservation Camp to be held this summer in Stone Valley, near State College, Pa.

Charles W. Stoddart, Jr., director of continuing education in the College of Physical Education and Athletics at the Pennsylvania State University and camp chairman, says that 155 boys will be enrolled in the camp this year. Four sessions, each of two weeks, are scheduled, beginning June 5 and continuing through July.

Quotas have already been assigned to the eight divisions of the Pennsylvania Federation of Sportsmen's Clubs, sponsors of the camp, who usually pay the enrollment fee for the boys chosen. Stoddart points

out that provision has been made to accommodate a limited number of boys sponsored by other conservation agencies.

The camp, which to date has enrolled 1,750 boys, is intended for high school freshmen and sophomores who are leaders in their schools and are interested in conservation.

They participate in a busy program of lectures and field trips dealing with such phases of conservation education as wild plant and animal food, stream pollution and water purification, reforestation, tree planting, forest management, soil and land capabilities, minerals, and fish propagation.

1960 Film Catalog Available

The 1960 edition of the F. & M. Schaefer Brewing Co., 430 Kent Avenue, Brooklyn 11, N. Y., Film Catalog is now available. It features such new films as "Rainbow Round the Andes," "Rescue Breathing," "Waterways and Flyways of the North" and many others. For further information write direct to the Film Division of the F. & M. Schaefer Brewing Co.

Why I Hate Flies

By JACK CAWTHON

My cousin, Lem, wasn't exactly the smartest person in our community. In fact, if you had asked some of our neighbors about Lem's mentality they wouldn't have hesitated about saying he was stupid.

One spring Lem heard somebody say something about tying flies to go fishing. For two days after that he was seen going about the community with an empty jar, jumping, waving his arms and making all sorts of wild gestures. It was the general opinion of the community that poor old Lem's mind had finally snapped.

It wasn't until about a week later that Lem approached me and asked how to go about tying a fly. I tried to explain in such a manner that even Lem could understand. I obviously succeeded, because he went his way with a gleam in his eye. I was worried about my cousin, and I expected him to be committed for observation at any time.

The next day Lem seemed angry with me. He explained that he couldn't get his doggoned flies tied, that every time he tried, the fly either got away or he squashed it in his fingers. This explained the jar and the wild antics a few days earlier!

I controlled my laughter the best I could and asked him if he had tried tying a granny knot around under the wings. He obviously hadn't because he scampered off as if spurred on by a new determination. I was really worried about my cousin by this time, and I felt quite guilty at further frustrating him. I just knew that if he were committed to an institution I'd feel more than a little guilty.

After that incident Lem came up missing. He was gone for three days. And to say the least I was worried. I'd always looked out for him in a way and at the end of the third day I was ready to form a search party.

I'd just started down the street toward the general store when I saw a crowd running pell-mell in that

same direction. Panic struck me, for I feared that Lem had been found in some awful condition.

A crowd had formed at the store when I got there, and I could hear them yelling something about Lem. When I finally elbowed my way through the crowd, lo and behold, there stood Cousin Lem with the largest brook trout I had ever seen, or had even heard about in any fisherman's wild stories about the one that got away. Here was a fish that no angler had ever dreamed about, let alone caught!

When Cousin Lem saw me he grasped me by his free hand and brought me forward. He yelled for the crowd to hear, "It was the granny knot that did the trick!" But the crowd was too excited to pay much attention. I accepted my glory with humility.

That trout was the talk of fishermen for months to come. And Lem continued to catch fish. None as big as the first one, but all were far from being little ones. People forgot about his eccentricities and they all pressed him for the secret of catching fish. He'd always murmur something about a granny knot, and the folks would nod their heads and say, "That Lem sure is a shrewd one; won't give his secret away."

To make the story short, I was the one who almost had a nervous breakdown by fall. Have you ever tried tying a granny knot under a fly's wings? I tried all summer, and by autumn I was beginning to shake worse than the remaining leaves on the trees.

I had too much pride to go to Cousin Lem and ask him how he did it. And as far as I know he has never told anyone. There's talk now about running Lem for mayor. If a fly and a knot can gain a man that much social acceptance I don't see anything wrong in keeping the secret. Lem thinks I'm a hero, and I think I need a good long rest away from fishing AND FROM FLIES.

I have some pretty strange relatives. Now, take Cousin Jimson for instance. . . .

Clean 'em Quickly for Better Flavor

The fish you catch this summer will taste better if cleaned within a few minutes after they're caught. Uncleaned fish, left for hours in the creel, often have a strong, unpleasant taste when cooked.

Here are some suggestions for immediate cleaning:

1. Split the fish down the belly from the tail to within a quarter-inch of the gills.
2. Insert fingers through the gills and pull to re-

move gills and entrails in one motion.

3. Clean out the dark blood or kidney line along the inside backbone with the thumbnail.

4. Wash fish inside and then dry with grass, paper or cloth.

5. Fish in the creel keep best in layers of dry grass. Evaporation of moisture from the fish is a cooling process. Washing lightly before cooking will restore moisture.

Strip Miners, Sportsmen Join in Lake Project

The Slippery Rock Sportsmen's Club and local coal stripping operators have combined forces to build a recreation lake on the club's 60 acres of ground one mile east of Slippery Rock.

Chutz Brothers of Slippery Rock donated the use



UNSIGHTLY COAL-stripping area here is being converted into a beautiful lake recreation center.

of their heavy equipment to build the dam. The lake area covers approximately four acres with two acres of water to be impounded. Sand has been hauled to the swimming area and grass sowing has been completed. It is planned to stock fish as soon as water conditions permit.

Most of the materials and other work were donated by local contractors, businessmen, farmers, and sportsmen.

The project began last spring under the leadership of Robert L. (Pete) Watson, 1959 president, and a committee of Myron Sonnett, Franklin Barnes, Alton Kennedy, Lee Allison, and Jack Hutchinson.

The Club, which meets the first Friday of each month, now numbers 125 members. It is a member of the Butler County Sportsmen's Council and the State Federation of Sportsmen. There are plans for a shelter, grills, and a club house to be erected soon.

The present officers are Franklin Barnes, president; John Saniga, vice president; Fred Eichenberger, secretary; and Isaiah Smith Treasurer.

Scholarships Available for Conservation Education

The 15th Annual Conservation Education Laboratory for Teachers will be conducted at the Pennsylvania State University during the 1960 Summer Sessions. Teachers will study about soil, water, forest, fisheries, wildlife, and mineral conservation through field trips, lectures, and discussion sessions. The courses are designed to develop leadership for school and community programs in the conservation of natural resources.

An advanced course will be offered in the second session, July 25 to August 12, and will be open to students who have completed or will complete the

regular course to be given July 5 to July 23. Laboratory work may be taken by elementary teachers, secondary teachers, and school administrators for graduate or undergraduate credit, and to meet certification requirements.

A limited number of partial scholarships are available, and are awarded on the basis of a letter of recommendation from a school official. For further information and applications, write to the Conservation Education Laboratory for Teachers, 311 Burrowes Building, The Pennsylvania State University, University Park, Pa.

"HOWDY"—the raccoon—says:

**Don't be a litterbug!
You CAN take it with you.**





Notes FROM THE STREAMS

Muskie Sport in Bedford

Since the turn of the year we recorded 9 muskellunge that were caught and released at Gordon Lake, Bedford County. Largest one 26½ inches long. One caught was a marked fish, this one was stocked this past year, length 14 inches.

—William E. Mellnay, Warden, Bedford County

Suckers with Bow and Arrow

For a number of years the archers have been enjoying many days along the streams in Pennsylvania taking carp with the bow and arrow. During the last session of the legislature a new law was enacted making it lawful to also take suckers with the bow.

I was well aware of the excellent success the archers had with carp, but was rather skeptical as to their ability to take suckers. I soon changed my mind on this matter when recently while checking a stream in Franklin County, I observed two boys thirteen years of age taking suckers with the bow. I personally saw one of these boys hit a 10-inch sucker at 15 paces in approximately 18 inches of water.

—Harold Corbin, Warden Supervisor, South Central Region

Another Type of Polluter

The pollution of a tributary stream of the Pennypack Creek in Lower Moreland Township by fuel oil is an example of the type of pollution that is caused by a careless person who doesn't take time to see that the oil is going in the tank and not into a nearby stream. This stream is one of the few trout streams in this area. About 500 gallons of No. 5 fuel oil were discharged into this trout stream. Results are damage to fish, aquatic life and stream banks.

—Walter J. Burkhardt, Warden,
Montgomery and Philadelphia Counties

It's a Small World

Here is a "believe it or not" or "it's a small world" item. On the second morning of the return trip after vacationing with our son in Oklahoma, my wife and I stopped for breakfast in a restaurant on the Kansas Turnpike near Topeka. From the back, the fellow ahead of me in line at the cashier looked familiar. "Oh, it couldn't be," I said to myself. But it was—Tom O'Hara, our chief engineer, who was also vacationing in the West. When I said, "Good morning, Tom," you should have seen the expression on his face.

—Harvey Neff, Warden, Lehigh County

Self Help to Better Trout Fishing

The tenth annual report by Secretary Bill Talbot of the trout rearing cooperative in Allentown, Lehigh County, that functions under the banner of the Lil-Le-Hi Tri-Club Nursery (See "More Sportsmen at Work"—March, 1958, ANGLER),

showed a total of 18,449 brook, brown and rainbow trout between 10 inches and 22 inches reared than released last year in local streams.

The nursery, formerly the Trexler Trout Hatchery, has been a part of the park system of the City of Allentown since 1949. The site is maintained by the city, which in addition provides one man to feed and care for the fish. His efforts are supplemented by a 50-man work corps comprised of members of the Lehigh County, the Trout Creek and the Pioneer Fish and Game Associations. These men rotate in teams to complete the full feeding schedule, the periodical grading, pond cleaning and stocking details. A total of 2,620 man-hours were logged by the corps in 1959.

Treasurer Bart Snyder's report disclosed a total expenditure of \$4,977.00, during the year.

The Fish Commission annually provides 10,000 each of brook, brown and rainbow trout fry and lends technical and pathological help when needed. The present nursery inventory shows 17,079 brook, brown and rainbow trout between 5 and 7 inches; 15,491 of the three species between 10 and 14 inches, and 560 brown and rainbow trout between 14 and 20 inches.

In addition to the adult fish stocked from the nursery into the Little Lehigh, the Cedar and Jordan Creeks, several thousand advanced fingerlings each year are placed into small feeder streams throughout Lehigh County.

—Harvey Neff, Warden, Lehigh County

Trout Treats

Vending machines may be installed at all Vermont fish hatcheries next summer—but not for candy or pop. The machines will contain pelleted trout food.

Vermont Fish and Game Service hatcherymen have been troubled by the irresistible urge of visitors to toss pebbles, bread, and assorted odds and ends at trout in pools and raceways. The pellet dispensers will help to satisfy this yen, and eliminate litterbugging.

Results of tests at two hatcheries show that young and old are eager to invest in the one-penny snacks for the trout, according to a recent news release. The peanut vendor at the zoo may soon feel a competitive pinch.

A Confused Cottontail

While on patrol with Game Protector Furry in Huntingdon County we had just approached and entered Mt. Union Borough when we observed a cottontail rabbit cross the street in front of us and run up the steps of the Mt. Union American Legion. We weren't sure that this bunny was of the legal age for indulging, but we would have given odds that if the doorbell would have been low enough, the bunny would have rung it, flashed his membership card, and gone in.

—Bernard D. Ambrose, Warden Trainee, South Central Region

The Importance of Trees

Trees are such an ordinary part of our everyday surroundings that we take them for granted and seldom realize the important roles they play in our lives or how interesting they can be, except to think of them as decorative parts of the landscape. A quick look through a few books on trees at your local library would probably surprise you. We took such a look the other day and came up with the following bits of incidental intelligence:

assumed that the list was complete.

A ton of dry wood will make 180 gallons of molasses. A ton of sawdust will yield about a half-ton of sugar.

During World War II, Swedish restaurants served woodburgers of torula yeast, which is derived from wood. The yeast is rich in riboflavin and has almost all of the properties of meat protein.



It has been estimated that seventy per cent of the nation's wildlife lives in National Forests.

About one-half of the nation's stream flow comes from woodland. About ninety per cent of the usable water in the west originates on forested watersheds.

The printed page you're reading was made from wood. The printed word is important in our way of life. It has been estimated that the New York Times, every week, consumes the product of eighty acres of woodland. The demand is met by an eighty-year rotation of 400,000 acres of forest.

It takes 150 to 180 years to grow a marketable crop of sawlog timber in the Rocky Mountain area.

In the United States, often less than fifty per cent of a tree is used when it is cut. The rest is considered waste. Europe manages to use eighty to ninety-four per cent.

Despite the development of plastics and various lightweight metals, wood has more uses today than ever before and the demands for wood are increasing. The 1949 Department of Agriculture yearbook reported that 4,500 uses had been listed and it wasn't

Timber is a renewable resource, but nature renews it just so fast and no faster. In any area, where the rate of use exceeds the rate at which timber is renewed, it is just a matter of time until no trees are left.

The book, "The Story of Trees," by Dr. Ferdinand C. Lane, says that "for a country to maintain such standards as our own thirty per cent of its area should remain forested."

On a sign at the entrance to a public park in Portugal are inscribed the following words:

"Ye who would pass by and raise your hand against me, harken ere you harm me. I am the heat of your hearth on the cold winter nights; the friendly shade screening you from the summer sun; and my fruits are refreshing draughts quenching your thirst as you journey on. I am the beam that holds your house, the board of your table, the bed on which you lie, and the timber that builds your boats. I am the handle of your hoe, the door of your homestead, the wood of your cradle, and the shell of your coffin. I am the gift of God and friend of man."

—Wyoming Wildlife

My Brook

...it's a fascinating place

By WARREN M. SINCLAIR



My brook is a special kind of brook. It not only rears speckled trout, so eagerly fished for by ninrods like myself, but it also sustains a hundred and one other kinds of life as well. I know this because I have seen it.

May flies have danced before my eyes on early summer evenings. I have seen the caddis fly larva, with its home of stems, and sand and shells, plying the bottom along with the backward flitting crawfish and finger pinching hellgrammite. I have scratched my fingers lifting rocks and pebbles searching for them, just as a speckled trout has roughed his nose doing the same.

The mad dash of the dragon fly, as well as the leisurely flight of the damsel have entertained me on many a midsummer night, when midges and their like have provided the menu for such aerobats. The tree swallow has been there also.

My brook mothers rich soil, producing plant life and blooms in all the colors of the spectrum. I have seen the trout lily lift its speckled foliage and pale yellow flower to a warming April sun, as shadbloom glistened in the thicket. The pitcher plant has fascinated me with its trap for the unwary visitor, together with its delicate pinkish green blossom in early June. Certainly no prettier red can be found than that of the cardinal flower, tossing gay colored spikes to a late summer breeze, except perhaps the crimson coloring of a nearby speckled trout courting his spouse to be.

The red-winged blackbird has scolded me unmercifully from overhead when I tarried too long near her home in the marsh. The white-throated sparrow has sung to me from a distant hillside, while the yellow-throated warbler rendered his "wichity" song from an alder nearby. Even the black duck has paraded her young before me, Indian file, and then hustled them off to the bank when I lifted my rod. They have ruined a likely pool and I haven't minded.

My brook provides a waterway for much life, above and below. I have watched the otter slide from his

sheltered bank and play in the pool's cool waters, while green frogs gazed and laughed. The muskrat has intrigued me with his V trail following so closely behind. I have even been slapped in the face with water from a beaver's tail when he figured I had overstepped my bounds. I rather like it.

On evenings when fish failed to rise to the fly, I have reined by a quiet bend and watched a doe and her small fawn come down to drink. That same clear cool water has quenched my thirst. The sly raccoon has demonstrated his clever fishing abilities from a not too distant log, and the fine coated mink has run the banks, leaving faint tracks in the mud to betray his wanderings till mother nature blotted them out with a gentle rain, perpetuator of woodland secrets that she is.

As if this weren't enough, my brook houses tremendous speckled trout, ready to arch at the drop of a fly.

I'm even willing to tell you where you might discover this interesting stream, with its host of pleasures waiting to be discovered. It could be most any clear water brook in your neighborhood. You may have seen it before but never really recognized it.

If you have been too intent in pursuing the fish himself, and not interested enough in the sport, then you may have failed to see some of the earmarks of my brook. A closer study of the other stream life might make a better fisherman of you, since it all contributes, in a way, to the welfare of the trout you seek. Once a better fisherman, you might even develop a keener sense of appreciation for the harmony of life and life itself, so close nearby.

My brook is a mother of life, and a teacher of humanity. Slowly I am learning her ways, but I know I shall never master them. She has too much to offer, and I am far too impatient in the bargain.

If you envy me my possession, this God-given heritage, then look about you; my brook could well be yours.

—Outdoor America

Fish Commission Employees Pass Away

The PENNSYLVANIA ANGLER regrets to announce the death of James W. Moase, a fish culturist at the Pleasant Mount Hatchery. Mr. Mose came to the Commission on April 7, 1941, and his passing will be lamented by the personnel of that Northeastern hatchery.

Harry W. Zerby, also a fish culturist, but heretofore employed with the Pleasant Gap Hatchery, opposite Bellefonte in Centre County, died on January 11, 1960. Mr. Zerby came to the Commission on May 17, 1951, and was regarded as a very efficient employee.

Not Just a Writer—But Fisherman Too!



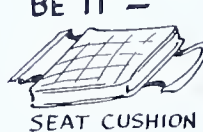
Did you catch any fish, dad? The father of these twin boys is Steve Szalewicz of Oil City, an outdoor writer whose articles have appeared in the ANGLER. On November 24, 1959, Steve went jigging at Eagle Rock, 12 miles up the Allegheny River from Oil City. The luck was exceptional. In six casts Steve caught five walleyes, ranging from 15 to 20 inches long. He reports "there wasn't a fisherman on the river." The water temperature was 38 degrees.



WALLEYES caught in French Creek are displayed by Edward T. Gray of Chancery Lane, Meadville, who fishes year-around for walleyes. These fish were taken from 35-degree water with spinner and fly as lure. They weigh 2½-3 pounds each and were caught both above and below Meadville. Gray also returned several to the water.

WATER SAFETY

WHEN YOU GO OUT
IN A BOAT —
BE SURE TO TAKE
ALONG A LIFE
PRESERVER FOR
EACH PASSENGER,
BE IT —



SEAT CUSHION

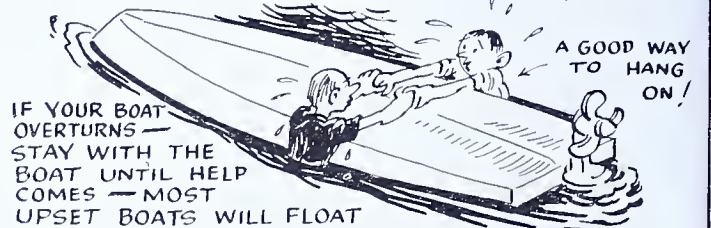


LIFE JACKET



SKI BELT

— OR INNER TUBE
ANYTHING
THAT WILL
KEEP YOUR
HEAD ABOVE
WATER



The real substance of conservation lies not in the physical projects of government but in the mental processes of citizens.
—Aldo Leopold

The "Universal" Fishing Permit

The winter of our discontent is ending rapidly now, to the relief of itching fishermen, particularly those who couldn't summon up the time or hardihood to do a little winter angling. And what was the main subject of the "hot-stove anglers" this past season but something new; the universal fishing permit.

This curtailment of field activities automatically opens the season on fish and game policy makers, who come to expect it. Even with this preparedness, though, it helps to have a new subject brought up, and while the idea of a permit good in any political subdivision isn't exactly new, it has been getting a great working-over in Missouri this past winter.

Fisherman magazine and *The Sporting Goods Dealer* began campaigning for ideas on the subject a year ago. The Sports Fishing Institute has led some high-level debating on the subject and it was worked over at the International Association of Game, Fish and Conservation Commissioners' meeting last fall.

The people picked it up, about where other commentators left it—they were in favor of a universal fishing license. Some of the *pros* wanted it as a money-saving device (which no universal license is ever likely to be) but others wrote "It might raise the fees but few of us would object." There has been no public dissent, so far as I know—except from the people who would have to work out such a universal permit.

Try some of the objections on, just for size: Who is going to sell this permit that will let the recipient fish in Missouri or Maine, Vermont or Virginia? How are the proceeds from such sale to be pro-rated among the states? What is the fair value of such a permit? What would happen if any one state refused to honor it? How would the Kentuckians, for instance, respond when they found out the "anywhere license" not only let them go to Tennessee but also let the Tennesseans come to Kentucky? (Using Kentucky and Tennessee as examples is called diplomacy.)

Can one argue reciprocity? It will be difficult to sell until fishing opportunities are equal in all states—and they never will be, of course. Without the figures at hand, it is my impression that Missouri sells more non-resident permits than any of the eight bordering states, except possibly Tennessee. There, the TVA lakes and some enlightened fishery management combined to create a Mecca for anglers from everywhere. But increasing water acreage in Missouri may offset this, especially with the added attractions of the Missouri Ozarks. Still (to continue our example), Tennessee might object to playing host to so many non-resident anglers, and having to foot the necessary management bill, and then lose a portion of the permit money to other states on a pro-rated basis. Arid states might like the idea, though, and so might visitors to even the arid states.

Those are some of the pros and cons on the universal fishing permit idea. The chief problem is how to arrive at some equitable basis for distribution of funds among the states. That is the big stumbling block certain to hold up any action one way or another until it is solved.

Possibly one way to a universal permit might be through reciprocal agreements between neighboring states, especially those with contiguous waters. A small group of states honoring one another's permits might be the nucleus from which the universal permit might grow. We think it an interesting idea. What do you think?

—Dan Sauls—Missouri Conservationist

HOWDY says:



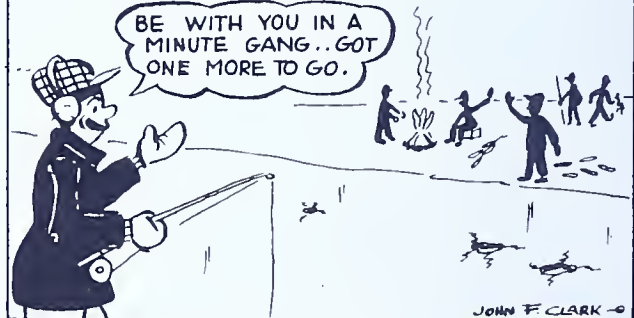
SEE WHAT I MEAN ?
HERE'S A **GOOD** EXAMPLE
OF **POOR**
OUTDOOR MANNERS
IN ACTION !

THIS INCIDENT ACTUALLY HAPPENED IN THE POCONO AREA
OF PENNSYLVANIA...ON A LAKE OPEN TO PUBLIC FISHING.

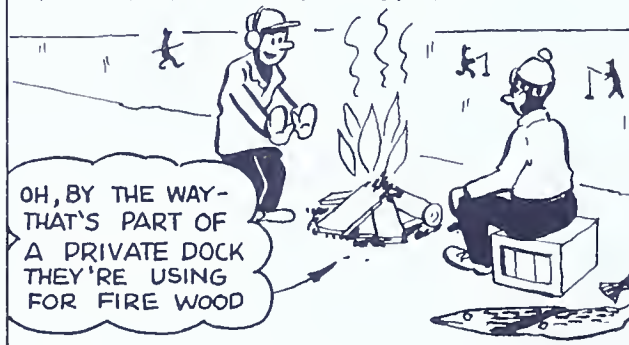
ONE DAY - FOUR MEN CAUGHT THEIR
LIMIT OF PICKEREL..



NEXT DAY - THEY RETURNED - WITH
TWO MORE FRIENDS... AND AGAIN
CAUGHT THEIR LIMIT...



NEXT DAY - EIGHT STRONG NOW- THEY
CAUGHT THE LIMIT AGAIN.



AND THE NEXT DAY ? ... THEY ONLY
CAUGHT A FEW FISH THEIR
COMMENT ?



WHAT DID THEY DO WITH THE FISH (OVER 100) THAT THEY HAD CAUGHT... ?



WE GIVE 'EM AWAY.
WE DON'T LIKE FISH
SO WE DON'T EAT
THEM !! ~~Commission~~ *!!...
WHAT'S IT TO YOU MAC?

HERE'S WHERE
"GIFT" FISH
USUALLY END
UP.



THE ONLY WAY WE'LL EVER HAVE BETTER FISHING IS TO TRULY

have **GOOD OUTDOOR MANNERS**

PENNSYLVANIA
Angler



April 1960

Getting Down to Earth

In these busy days of gadgetry and gimmickry, of spiraling living standards, of jam-packed leisure hours, men have little time to sit alone with themselves in the dark; little time to just plain think.

A regrettable situation, this, because some good old-fashioned thinking is needed now as it was never needed before.

There is thinking to be done about many things if men are to maintain, some would even say, if men are to win back the security of life.

Men must think about the geometric progression of their population. When they read that life expectancy of babies born in 1955 is 70 years, they must think about this. Thinking must be done about de-urbanization and its gathering speed. Shorter work weeks, more vacations, earlier retirements—these too, demand men's thoughts. Men must think about their increasing interest—nay, need—in outdoor recreation; not just hunting and fishing, but hiking, canoeing, camping and all of the other types.

Men must think about basic things. They must think about nature and her resources; those that men can renew and those that are non-renewable.

Men must think about land. Perhaps most of all, men must think about land. This basic of all resources; this common denominator of all that is material demands the most concentrated kind of thinking. Public and private ownership, land ethics—these should provoke men's thoughts.

Use of land by men: Shall it be prodigal, or shall it be wise? This, too, needs thinking. Are men preparing themselves—and their children—to use their land recklessly, or to nurture it prudently? Are they thinking of the consequences of the one, or the other?

Aldo Leopold said it: "Conservation is a state of harmony between men and land."

All men must think about this.

—Land—Our Basic Resource, "Michigan Conservation Department"

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APRIL, 1960

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J. ALLEN BARRETT, Editor

JOHNNY NICKLAS, Photographer

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THE COVER: Braving the ice and snow Claysburg Sportsmen assist in stocking trout in the Frankstown Branch of the Juniata River.

Photo by Johnny Nicklas

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Take a Tip From the Birds

By DON SHINER

When brown trout are feeding on song birds, give them a *Red Wing Black Bird* fly.

It almost borders on the ridiculous side to suggest that flies which wear the same colors as found on the Red Wing swamp songster will interest "long-as-your-



THESE colorful flies are easily seen and followed on riffly water. You can see them; trout can see them. This means action on the trout stream.

arm" trout. And it was pure conjecture on the part of a fishing comedian, in a party of four which included the author, that he asked why flies were not tied according to color schemes of birds, for use at such times when trout feed on these musical instrumentalists. It was a new thought. I could not resist pursuing the idea when once again I found a few spare moments to relax behind the fly vise.

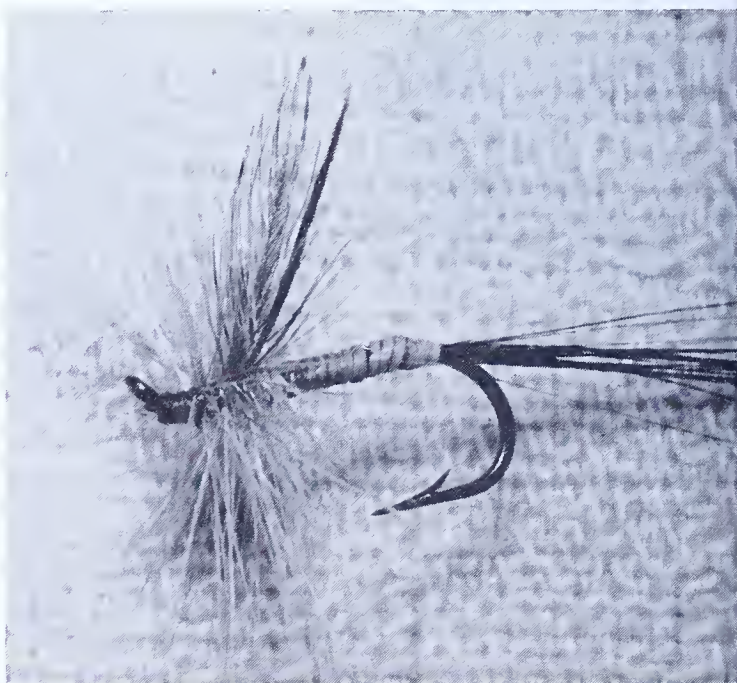
Several evenings later a bird encyclopedia was consulted for research into color phases of birds commonly found along Penn's streams. The list was almost endless. Kingfisher, Cliff Swallow, Baltimore Oriole, Red Head Woodpecker were shown, to mention only a few. The colors of these birds took on a significant meaning. What had been said in jesting might indeed



RED-WING Blackbird—Tail: Black hackle wisps; Wings: Red hackle tips; Body: Black floss; Hackle: Black.

prove interesting on the next trip astream.

Burning the midnight lantern, I labored over an assortment of game cock necks, quill feathers, floss, tinsel, et cetera, and selected six birds for duplication on No. 10 light wire hooks. Two weeks later these ridiculous flies worked wonders on the stream, raising,

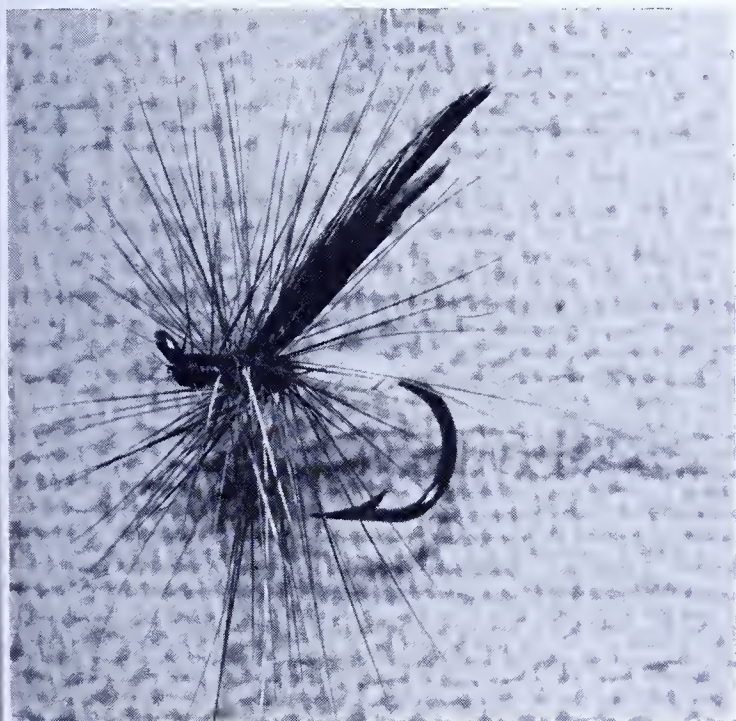


WHIP-POOR-WILL—Tail: Brown hackle wisps; Wings: Red grizzly hackle tips; Body: Moose mane; Hackle: Honey and brown mixed.

hooking and landing what would have been a handsome creel of trout had all of them been kept.

The six birds copied were (1) Red Wing Black Bird, (2) Whip-Poor-Will, (3) Cliff Swallow, (4) Red Head Woodpecker, (5) Meadow Lark, and (6) Baltimore Oriole. Colors of the birds' tail feathers were chosen for the tail of the dry flies. The predominant color on the birds' body was reflected in the choice of material for the body of the flies. This same procedure was used in selecting the colors for the wings and hackle. All of which sounds like the product of a fisherman who has suddenly gone berserk from chasing one too many trout.

But there is more to this bird pattern story. Top quality materials were used throughout the work, with the result the flies had extremely good floatability.



CLIFF Swallow—Tail: Pink hackle wisps; Wings: Gray slate quill; Body: White moose mane; Hackle: Red.

The bright colors enhanced visibility on riffly water. All six were so handsome that in all probability, they would suggest something new and inviting to feeding trout. All six became hits.

Several weeks later, this same group of fishing cronies scheduled an evening of dry flying on a local stream. My gear was in readiness when the ear of anglers drove into my ear port. In half an hour we were adjusting boot suspenders, climbing into creel harnesses, dressing fly lines and tying tippets in place. No two men agreed on what fly to use. Each had his pet stock-in-trade or else insisted he would first view what insects were afloat or aflight over the stream. This was the logical approach, but I insisted on being irrational, and silently selected one of the new bird patterns—the Red Wing Black Bird model.

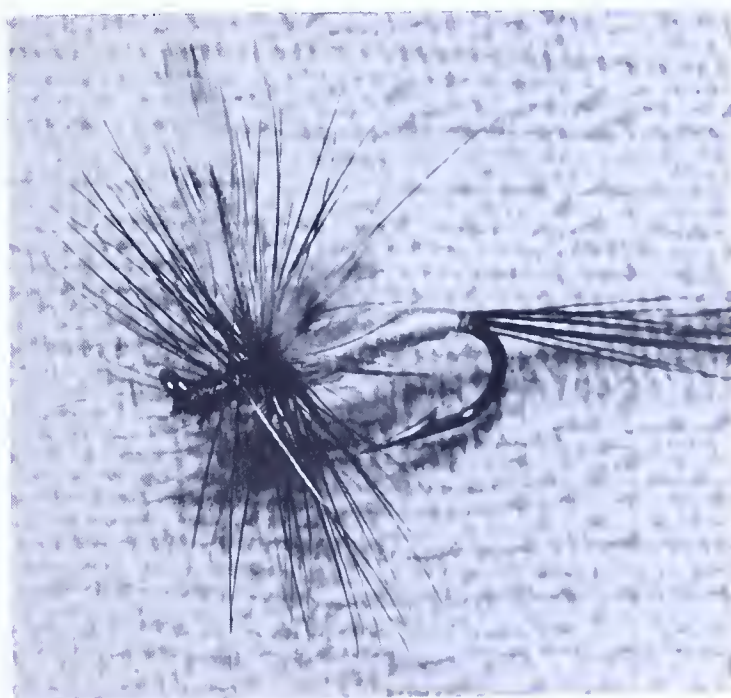
The stream at my point of entrance was moderately deep, with riffles gliding past nice boulders which ap-



RED HEAD Woodpecker—Tail: Black moose mane tips; Wings: Grizzly hackle tips; Body: White floss or moose mane; Hackle: Red.

peared like knights and castles on a chessboard. Close by the nearest knight stone a small swirl appeared, made by a trout. Stripping line from the reel, I cast the fly toward that spot. The cast fell short and the fly floated eight or ten yards without being disturbed. The second cast hit the mark within a few inches. The instant the fly touched moisture, it was gone in a flash. Tightening the line I felt the familiar and delightful tug of a fish. Moments later it slipped onto the gravel bar and proved to be a brown, not of bragging size, but more colorful than a desert sunset.

The fly was wet and matted, so snipping it from the



BALTIMORE Oriole—Tail: Black moose mane tips; Wings: Brown grizzly hackle tips; Body: Orange floss; Hackle: Black.

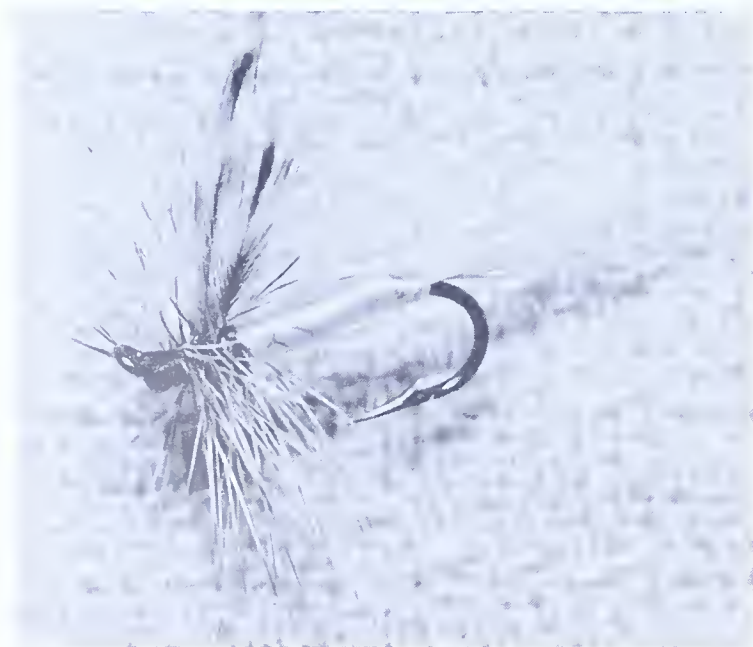


THESE bird-fly patterns are fine for "pounding" up trout when hatches are non-existent.

leader I selected and tied another bird pattern in place. This was the Baltimore Oriole. Hastily snapping the rod forward, the line was airborne, sending the fly shooting across the stream. Four or five casts later netted another splashy raise and found a trout hitting the steel. It was a rainbow, of equal size to the brown, and as colorful as the band of colors refracted by moist air after a summer shower.



HANDSOME brooks, browns and rainbows will jump for these unusual fly patterns.



MEADOW Lark—Tail: Brown hackle wisps; Wings: Brown grizzly; Body: Yellow floss with tinsel; Hackle: Light brown grizzly.

So it continued until the six bird flies each accounted for at least one trout. Darkness then set in and I retraced my steps back to the car. All four of us returned within a few minutes of one another. And when we compared notes, I caught seven trout, the others had caught three, four and five, but none topped the beautiful 16-inch brown in my creel. This is a prize in any fisherman's book. All four fishermen used entirely different flies this evening: a Royal Coachman, Adams, Light Cahill, and my six unusual bird patterns. This was a real conglomeration of flies adrift this night.

It was obvious the trout were not selective. The air was filled just at dusk with spinners, yet few duns were coming from the water. Probably this lack of food caused our variety of flies to appeal. The previous night, or the tomorrow's evening might prove entirely different, with trout so selective that only a match-the-hatch fly would spell success.

A month later I spent another morning fly-fishing for trout. The same six bird flies again proved smash hits. These plucky trout chewed the flies to shreds. So much so, that I spent that evening tying new hooks with the same bird colors.

It is not implied that anglers should discard all the tried and proved patterns in favor of these bird lures. Nor is it suggested that these are sure-fire, best-all-around flies for trout and panfish. However, amateur tiers can have a world of fun tying these particular flies and others that are suggested by the colors of the stream and song birds common to Pennsylvania. These colorful patterns open a whole new horizon in lures. One of these might just be the "something different" that an old hooked-nose brown is waiting to try for a variation in menu.

I may have crawled far out on a limb and exhibited final proof of my incompetence as a reliable outdoor writer by the mere fact that I suggested these new flies. However, before you pass too severe judgment, be sure to try these feathered baits. The criticism leveled in this direction then will be less sharp and pointed. Critics will find these flies are not strictly for the birds, but for trout also!

Trout Fisherman—The New Definition

By MEL CURRIE

In the public mind the generalization, trout fisherman, has for the most part been interpreted to signify a quality of sportsmanship of a distinctly mature type characterized by devotion and integrity in purpose and action. As a consequence there has grown up an aura of prestige about the term and the men who wear the label.

The fact is of course that such a generalized conception is hardly descriptive of all men who seek trout, for as a group there is evidenced an uncommonly wide range of devotees. From the emotionally immature supercharged with an impassioned greed to the cult of the purist is a tremendous step embracing all degrees of good, better and best. Fortunately, most of us do not follow hatchery trucks, but there is definite evidence that more of us will have to climb a few rungs higher on the ladder if future sport is to be enjoyed.

The full creel philosophy has grown archaic. Outmoded by economic fact and social circumstance a more enlightened approach must be generally adopted. The hungry must take their case to the appropriate welfare agency; not to the nearest trout stream.

A weighty creel is not a valid test of proficiency. The competent angler secure in his knowledge of fish and stream and skilled in the practices of his sport realizes that the full creel means barren waters. He knows that no governmental agency can possibly afford to put them in as fast as they can be levered out. Competency does not require continued proof to friends and neighbors. When he must have fish to eat he prefers to buy them, not only because they're cheaper that way, but this poses no threat whatsoever to the future of his sport.

The evolution of a trout fisherman is not always a clear cut process. Some never hurdle the lower rungs of the ladder and persist in their employment of crude techniques and out-dated habits. Education plays a significant role, but as every teacher knows the human clay is molded by a myriad of forces outside of the classroom. The desired goal is seldom achieved completely, and with many, never.

If we were to pinpoint one attribute common to all of our most enlightened trout fishermen the characteristic would best be described as maturity.

Maturity is not a question of years. This fallacy focused in the light of modern psychology has caused some agonized screams, because popular notion has it that the boy magically splits his pupal case and

emerges as a weak-winged but nevertheless full-fledged man at age 21. Physically and legally this may be so, but emotionally it means relatively little. Maturity in the sense that the term is used here is wholly a mental enlightenment embracing a set of habits and attitudes towards the best that the human spirit has to offer. The mature give as well as receive. The mature have that quality best described as empathy, and every trout fisherman whom I have ever met who securely holds a seat at the top of the ladder has it.

Empathy is a highly developed form of understanding. The lover of trout fishing knows what it is because he feels it. Water, wind, trees, sky, clouds, coolness, shadow, and sound all blend into a unified beauty and in the midst of this setting stands man who with uplifted eyes cannot help but feel the emotional fullness that comes with reverence. Here he is at home. The vibrant majesty of each swaying tree branch whispers a token of understanding welcome. To play a non-destructive role in such a situation then becomes a moral obligation. To preserve it becomes a necessity. That is why a day on the stream is never wasted even though they catch no fish. It is this attitude which makes it more fun to release the flashing warrior than to kill him.

Empathy works hand in hand with another attribute, imagination, the working of the mind that through the swirls of a smoking briar takes us stream-side while snows pack deeply and icy winds rattle the windows. Imagination performs another function. It lets the future haunt the present. It creates bizarre settings devoid of trees and cool waters. Barren creek beds with dead-brown bottoms stare back through the eyes of imagination like withered skeletons. What would it be like without trout fishing? Imagination quickly fills the picture with tortuous scenes. Then fear slowly creeps into the senses and concern becomes paramount.

The short-sighted envision no such world of want. The immature and the greedy refuse to do so.

Groups are made up of individuals so this is not merely a sociological problem. It is psychological as well. Each individual must bear the brunt of self-examination.

In my own case I faced the critical crossroad of sportsmanship and self-esteem with the very first trout I ever caught.

It was an unusually hot day in July. Impatiently wiping sweat, biting mosquitoes, and stinging tree

branches from my face I made my way along a small feeder stream to Wolf Creek in Mercer County. Crashing into a clearing I half-heartedly dangled a beat up worm into a diminutive riffle hardly more than 18 inches wide. A flashing brown socked it, and in my surprise I hoisted him some six feet vertically to my feet onto the cut-bank where I was standing. The poor devil hadn't been given a chance to flap a gill cover before I had him levered out. The more I thought about it the more repulsed I became over the action. This was sport?

One possible reaction might have been the feeling that since the catch was legal and eatable the action was acceptable.

Instead I felt ashamed.

No one of course is more aware of the complexity of the problem than the Fish Commission. The Left Branch of Young Woman's Creek Project in Clinton County is aimed directly towards the development of

angler maturity and a better understanding of the fun aspects of no-kill sport. This is strictly fly-fishing only water and no fish may be creeled. Crystal waters with a rich mountainous setting make this undoubtedly one of the most beautiful trout streams anywhere. Add a final touch of enforced sportsmanship and you have as fine a combination as can be had.

The well known Fisherman's Paradise Project in Centre County falls into the same classification, although one kill is allowed.

It is hardly necessary that we all go purist. Nymph-fishing is as tricky and every bit as much fun as dry fly-fishing and there will always be a place for wet flies in most fly cases. The point is not that we develop a fanaticism of restriction, but that we build a set of applied attitudes, cognizant of economic and social fact, that make the term trout fisherman more compatible with the best that we are capable of putting forth.

ANGLER QUIZ

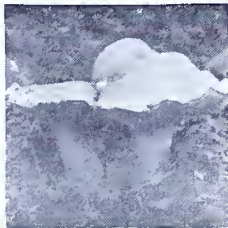
By Carsten Ahrens

The Lowly Plants

A. Algae

B. Toadstools

C. Mushrooms



Toadstools

D. Bracket Fungi

E. Lichens

F. Liverworts

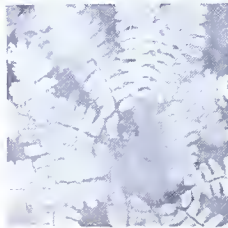


Horsetails

G. Mosses

H. Club Mosses

I. Horsetails



Fern

J. Ferns

- 1. Plants with "leaves" with rows of spore cases on their undersides. In Pennsylvania they may grow to 6 feet; in tropics, to 50 feet.
- 2. Plants that look like reddish-green bits of leather one generation and like tiny umbrellas the next.
- 3. One-celled plants often so numerous that they give color: red, green, blue, etc., to the water in which they grow.
- 4. These were called "Scouring rushes" by pioneer women who used them to keep their pots and pans clean. They grow about 3 feet tall.
- 5. Low, weak-stemmed, small green-leaved plants one generation followed by a generation each having a stiff stalk and a spore-filled capsule.
- 6. Non-green plants with "gills"; they're poisonous to man.
- 7. An association of algae and fungi that makes existence possible for both. The algae make food; the fungi secure water.
- 8. The only fungus that man uses commonly for food.
- 9. Woody, shelf-like projections, dark above, light below, that grow on trees.
- 10. Low evergreen plants (unrelated to our conifers) occasionally used for Christmas decoration.

ANSWERS

A-3; B-6; C-8; D-9; E-7; F-2; G-5; H-10; I-4; J-1.

Before You Do-it-yourself

Editor's Note: *This piece bears double significance here. It is good reading in itself—humorous and all too true, as insurance statistics will show. And though Bob Glover of the Commission's Conservation Education Division has for years been a "do-it-yourselfer" with his flies, rods, etc., without more than a few minor punctures and slices, he extended his efforts over the recent holidays to a combination gun-tackle cabinet, hence the second significance.*

In the process he fell off a horse—sawhorse, that is. His left arm came out of a wrist-to-shoulder cast recently after carrying it in a sling for thirteen weeks. He promises that the cabinet, when completed, will be trimmed with a "purple heart" top and center.

"Let's build a boat," my cousin Winslow said to me a few months back. Little was I to know that Winslow was a victim of the infamous do-it-yourself craze.

The missing thumb on his left hand and the sagging right shoulder, the former resulting from a misfired rocket and the latter from some overly loaded shotgun shells which Winslow had done himself, almost literally, should have been ample warnings against this fiendish cousin.

After swimming out of the murky depths of the river where our boat was launched and sunk in almost one easy operation, the sinking being much easier than the launching, and losing a motor in the process, I became suddenly aware of people who suffer from the incurable disease of do-it-yourselfism.

When early man found that a round wheel would roll better than a square one—they said it couldn't be done—he opened the way for do-it-yourselfers from there to eternity.

Such a humble beginning finally resulted in the crossbow, gunpowder and, eventually, the H-bomb.

Civilization down through the ages has had many do-it-yourselfers as leaders. The Egyptians built pyramids with do-it-yourself slaves, the Mound Builders, oddly enough built mounds and the Greeks utilized wood products in building horses.

I conducted a closer study of Cousin Winslow, from a distance, and found that we was inflicted with The Malady early in childhood, which almost any psychologist will tell you is an extremely formative period.

His first project was a boomerang arrow which boomeranged on Cousin Winslow, knocking out six teeth. His first classic do-it-yourself in the sport of fishing consisted of trying to teach a live fly to swim under water, almost drowning himself in the attempt.

In later life he built walls which crumbled, an outdoor barbecue unit which burned to the ground (Don't ask me how!), a camping outfit which consisted of a sleeping bag which shrank when wet (He almost smothered in this one!) and a fishing reel using rubber line. (When a fish struck, the line was supposed to snap it out of the stream. Instead, the line broke, springing back to inflict a nasty gash on my other cousin Wendell who was fishing with Winslow. Winslow and Wendell don't speak to each other anymore.)

Don't get me wrong, there have been a lot of worthy contributions made to society by do-it-yourselfers. But none of the contributors have been related to me.

To overcome the strong temptation of becoming an outdoor do-it-yourselfer, I read quite a lot. I'm reading an interesting book now titled, ANYONE CAN BE AN EDITOR.

—Jack Cawthon, "West Virginia Conservation"

Permit Required

The Pennsylvania Fish Commission reminds all boaters that a permit is required when boat moorings on Fish Commission lakes and river access areas are intended to remain overnight.

These permits are issued free and may be obtained from the District Fish Warden. A penalty of twenty (20) dollars is imposed for failure to comply with this regulation.

Let's Eat, Pete

By **ALBERT G. SHIMMEL**

I am not an expert in culinary art: I would be hard pressed to tell the difference between Bunuelos and Buerre Noir. I hasten to add that almost half a century of eating camp foods, often bad, occasionally good and rarely excellent over half a continent, entitles a man to certain definite opinions in matters gastronomic. This is particularly true when the individual has inherited from Teutonic ancestors an excellent digestion and a love for good food.

Some very mediocre trips have been made outstanding by the miracles wrought by the camp chef, while



other very promising expeditions have turned into veritable nightmares because of the cook's lack of skill. It is in defense of certain long-suffering, bicarbonate-coated stomachs, and with a prayer that the standard of culinary excellence in the realm of outdoor cookery might be lifted that these secrets are offered.

There have been instances, when from sheer desperation I have commandeered the skillet and tried my hand at the art of the chef. I have discovered that the excellent camp cooks have specialty dishes that years of experience have brought to a high degree of perfection. They guard them jealously as "trade secrets." That these products were the pinnacle of the art is proven by the popularity of the camps where these genii presided. It is not proper, lest the young be corrupted, for me to disclose the devious means by which the recipes for these treasures came into my possession. Most of them have the simplicity that causes them to turn out passably, even under the bungling efforts of an amateur.

Among all these artistes there was but one woman. She reigned in the early days when the camp was strictly man's domain. She ruled with an iron hand a dozen or more fishing guests with the finesse of an old

world innkeeper. She tied excellent flies, and was not above taking a rod and giving her guests a lesson if the trout were coy. The real lodestone of the camp was the wide table with its spotless cover of white oilcloth. Here the evening meal was served by mellow lamp light after the last of the evening hatch had left the home pool. The weary anglers climbed the steep path and rushed through their meager preparations with alacrity, even crowding each other to find places at the festive board. The piece de resistance was a brace of fried trout, served on individual platters and garnished with fresh water cress. The fish had been rolled in seasoned cornmeal and fried in deep fat. I missed the best rise of the season to fathom the secret of that delicate flavor. I learned that an occasional summer visitor returned to hunt bear along the beech ridges in the fall. Bear fat was rendered into oil and stored in the ice house to be used during the summer. The bear oil was the "extra" that accounted for the difference in flavor. I can think of nothing finer than those golden chunks of goodness, served on a blue Willow Ware platter with home-baked bread, hot from the oven, spread generously with fresh country butter and the usual fixings. It was rumored that one tycoon had been so impressed that he had proposed to the portly lady, only to be refused. It was little wonder that Aunt Maggie's lodge was famous throughout the east, and the fortunates were content whether fishing was good or bad. . . .

When Hubert emigrated from France, he found room in his trunk for a few of the great classics of his country and some cuttings from his favorite grape vines. He was old when I first saw him, standing on the slope of the Big Knob looking down over his clearing, his vines and his cabin. The wilderness supplied his necessities except for the few things he brought in twice a year. He trapped, hunted ginseng, guided hunters, cultivated his vines and garden, found leisure to enjoy his books, his pipe, and his homemade wine.

He had a flair for cooking and delighted in serving his infrequent guests. His dishes were derived from native materials supplied by the wilderness. His Petite Lobster, Pot Herbs, and tea were an adventure in wilderness cuisine.

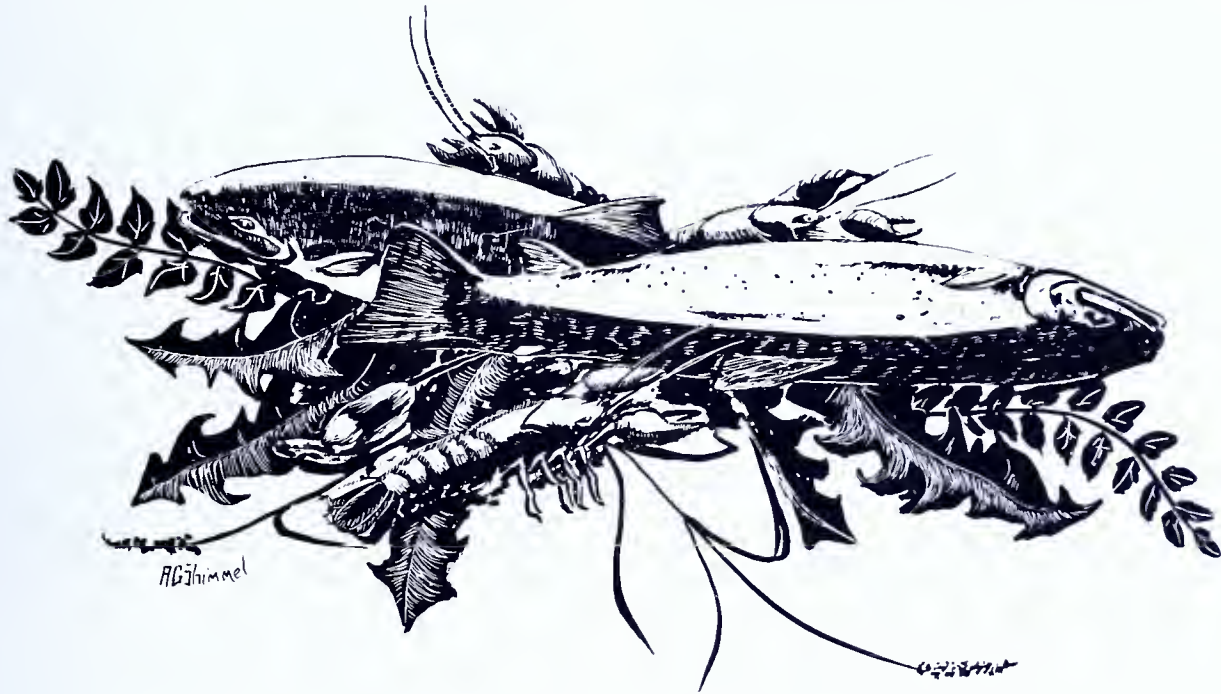
Tender dandelion leaves, sprigs of water cress and sorrel leaves were thoroughly washed. Home-smoked bacon was finely diced and cooked lightly in a big skillet. A tablespoon of maple sugar, a fourth cup of wine vinegar, and half cup of water were added and

brought to a boil. The mixture was removed from the heat immediately and poured over the greens to wilt them. A half cup of finely chopped onion was added and blended.

The companion dish was Petite Lobster. Three dozen of the largest crayfish were collected along the branch and kept alive in a wooden trap below the spring. When the black pot was boiling furiously, he dropped them in alive and boiled them for twenty minutes. They turned bright red and looked exactly like their salt water cousins. They were taken from the fire, cooled, and the tails removed and shelled. The meat was then browned in bacon drippings after having been rolled in seasoned flour. A sauce of catsup, mus-

"You try, we eat eh trout." He held up a cherry-sized mass of orange roe tied in a bit of netting with red yarn. When I nodded reluctantly, he quickly slid the big Peterborough into the cedar-stained waters of the Big Two-Hearted River. I had just battled six of the wildest trout of my career with a light fly rod and my arm was beginning to talk back. Also there was a matter of fifteen miles between us and our camp at the mouth of the river. I traded my fly rod for spinning tackle. Joe buried the hook in a "Gofer Ball." A tiny sinker was attached about eighteen inches above on a six X. dropper. This would allow the bait to roll along the gravel at the bottom of the river.

The six-pound rainbow that was tented to the



tard, and a touch of wild garlic was blended and served with these delicacies.

Hot biscuits and tea completed the menu. The tea was not the lye-black concoction so often encountered in the backwoods. It was the best tea obtainable, mixed with some of the native herbs that gave it added aroma and flavor. You could detect a hint of pennyroyal, wintergreen, and spearmint but tied to them was the flavor of good honest tea without a trace of bitterness. A bit of maple sugar sweetened this vintage beverage and added its subtle flavor. You did not drink Hubert's tea, you sipped it with an enjoyment that never palled. You dined with him in a setting that was crude and primitive, but the evident pleasure with which he served you, his old world courtesy, and the excellence of his table made the twelve-mile paddle up the river against the current a journey of anticipation. . . .

I looked expectantly into Joe's dark face as he dipped the net deep and came up with a pink-sided chunky trout of about two pounds in weight.

"Papoose," he grunted, then deftly removed the green and silver streamer and dumped the trout back into the dark water.

canoe when we reached the camp on the shore of Lake Superior had at least been given the respect of a keeper. I later learned why.

Frank, Joe's brother, had a fire of cedar burning in a pit dug in the sand of the lake shore. The fish was cleaned by cutting off the head then removing the entrails without slitting the belly skin. A filling was made of bread, finely diced bacon, and a touch of onion. The body cavity was filled with this mixture after it had been seasoned with salt, pepper, and a generous lump of butter. The opening at the throat and vent were plugged with biscuit dough and the fish wrapped in foil, then buried in the hot sand. A thin layer of sand was pulled over the parcel, then the fire was rebuilt and allowed to burn for about forty-five minutes. At the end of this time, Joe raked away the coals and uncovered the fish. Frank cut it into three portions, measuring carefully to be sure they were equal in size. When the skin was turned back, it revealed the orange flesh, perfectly cooked and seasoned. Frank served us biscuits from the reflector oven that stood at the side of the pit. Butter, blueberry jam, and tea completed the meal. Every crumb of food disappeared. No wonder Joe insisted on a six-pounder. I

still dream I can hear the gulls crying along the lake shore and wake with a hunger for Joe's baked trout.

There were other notable cooks that left their imprint on my waistline. Shultz of the Vitaminc Club (pronounced with a W), so named from the habit of mixing their potent liquids with fruit juice instead of soda. The roster read like the roll of a little German Band. Such names as Stutzman, Sweitzer, Kissell, Swenk and Steinbreaken were to name a few. Space will not permit the detailed account of such delicacies as Shultz's venison chops and sour gravy, or his wedges of fruit-salad pie, that rounded out the seven sweets and seven sours that appeared on the table of these stout gentlemen who prided themselves as much on their prowess at the table as their skill in the field.

There were other notables remembered with abiding affection. There was Dutch Carl and his roast grouse filled with oysters and spiced cabbage and Scoty McDonald's lunches of smoked walleye and biscuits with fresh blueberries baked inside. There was Dib Olsen who baked beans in a Dutch oven buried deep under the night fire; and dug them out to serve

at breakfast time with his wonderful flannel cakes and Swedish coffee. How can I forget Tim Murphey and his wonderful Irish stew concocted of assorted meats and vegetables cooked in a big pot on the back of the camp stove. The flavor changed slightly as new ingredients were added but it never lost its identity or its ability to please the consumer. Horace Waring fed me with planked smelt taken from the cold brook that flowed into Lake Huron. Jim Ochee showed me how to enjoy venison when we shaved it from a frozen haunch that hung under the eaves of his cabin, broiled on a sharpened stick over the coals of the fireplace. When it was done, he seasoned it with a pinch of salt. Venison "a-la-primitive" is well above average eating.

Good woods cooks, like gold, turn up in the most unexpected places. They are not designated by race, color, creed or sex but being artists have one thing in common, a fanatical pride in their art. It is too much to expect to find a composite of all the good ones I have known, and hear him beat the dish pan with a mixing spoon, and give Jim Ochee's dinner call, LET'S EAT, PETE!

Little Boats for Big Fish

Small boats frequently open the door to man-sized fishing.

They provide the "entree" to streams too deep for wading, and furnish a convenient way to fish those small lakes frequently neglected by most anglers. These little boats may have been pushed into the background by big pleasure craft, the Mercury outboard makers say, but point out that they still play an important role on the fishing scene.

Unless your biceps are big and your back broad, it is suggested that you limit cartoppers to boats weighing less than 120 pounds. Wood and fiberglass construction seldom meet this weight requirement, so they further suggest that you confine your small boat choice to sturdy aluminum or a strip-canvas combination.

Canoes are natural cartoppers. Light and extremely portable, they represent one of the finest craft avail-

able for fishing rivers or small lakes. Aluminum canoes are especially light, won't soak up additional aquatic pounds and can take a beating. Square-sterned models powered with small outboards make it almost unnecessary to pick up a paddle.

Small skiffs are handy also. They're stable in calm waters, and offer more freedom of movement by boat occupants. But they can't compete with the canoe for shooting river rapids or busting through whitecaps on a wind-ruffled lake.

Select your car-top boat with an eye toward the type of waters you'll be fishing most often.

Portability is the main feature of a car-top boat. You can load it on a \$10 car-top platform and can take it wherever you can drive a car. With one of these lightweight craft, you can seek out the lonely fishing waters bypassed by less adventurous anglers, and discover a lot of fishing action in the process.

"Hook, Line and What Knot?"

The Weber Tackle Company of Stevens Point, Wis., announces the distribution of the above entitled 14-minute movie for free use upon the request from sportsmen's organizations throughout the nation. This film is 14 minute, 16mm, sound and in color and was produced by the Du Pont Company. It can be obtained for free simply by writing to the Weber Tackle Company, Stevens Point, Wis., and making a formal re-

quest. Please allow sufficient time for the company to route the film to you. This time should involve at least ten days.

This movie depicts the many phases in tying proper knots with monofilament spinning lines together with other educational and interesting visual information of extreme interest to fishermen.

Muskellunge for Pennsylvania Waters

(see picture lay-out on pages 12 and 13)

The Pennsylvania Fish Commission initiated an accelerated program of muskellunge culture in 1956. Its purposes remain to augment those naturally propagated in Pennsylvania's natural musk range—Lake Erie and Allegheny River drainages and other selected waters in the hope of establishing the species there.

Unlike trout, which can be artificially propagated in hatcheries from brood stock to mature fish by means that are economically feasible, only a portion of the cycle is practical with muskellunge.

Musky eggs are taken from wild fish then hatched and reared to fingerling size. The elapsed time between stripping the eggs and milt from the parent fish to the release of the fingerlings is approximately 15 to 20 weeks. In the meantime to produce less than 14,000 fingerling between 5" and 12" they consume over 12 million forage fish.

The picture spread on pages 12 and 13 illustrates that portion of the program involved in procuring the egg supply.

The nets are set in the Pymatuning Reservoir as soon after ice-out as practical. They are checked daily by personnel of the Pymatuning station, who leave their dock early each morning during the collection period (photo 1).

Upon arriving at a set which may be a trap, pound or box net, they enter the enclosure (photo 2), boat and all, to check the bag and remove any adult muskies it contains. The adults are transferred to a holding tank on the boat (photo 3) and are handled with extreme care (photo 4) to avoid injuring the fish or causing a premature discharge of eggs or milt.

Along with the musky, many other species of fish, including bluegills, yellow perch, sheepshead, quillback, carp and bass enter the net (photo 5), but are removed and returned to the Reservoir.

Upon return to the station, the adults are transferred to holding tanks (photo 6) in the hatchery building and retained there until a sufficient number are on hand (photo 7) to warrant the stripping operation.

Because of the size of the adult musky and the care that must be exercised in handling them, the job of stripping sometimes requires as many as four men (photo 8). Eggs are stripped from the female, then later fertilized by the milt stripped from a male.

Occasionally, parent fish are not quite ready to give up their eggs or milt, and are placed in holding ponds (photo 9) and checked every couple of days to determine their state (photo 10).

When stripping is completed the fish are then returned unharmed and none the worse for the experience to the Reservoir out of which they were collected (photo 11). Almost immediately upon being placed in the water they disappear in a cloud of mud or sand (photo 12).

On rare occasion there is a casualty, as shown in photo 13. This was a 45" female that was found dead in one of the nets. In addition to being fungused, later examination showed it to be egg-bound. Photo 14 shows the large egg sacs containing approximately 82,500 eggs a ripe female musky carries. Though she could have been in the net no longer than 18 hours, since that net was last checked, and died in the meantime, its eggs too had died.

The procedure in subsequent weeks sees the eggs hatched in jars and reared in troughs at the Linesville, Tionesta, Union City, Bellefonte and Pleasant Mount stations. From these points in the Commission's hatchery system, they are planted between July and September in waters designated by the Commission upon recommendation of the Commission's biology division.

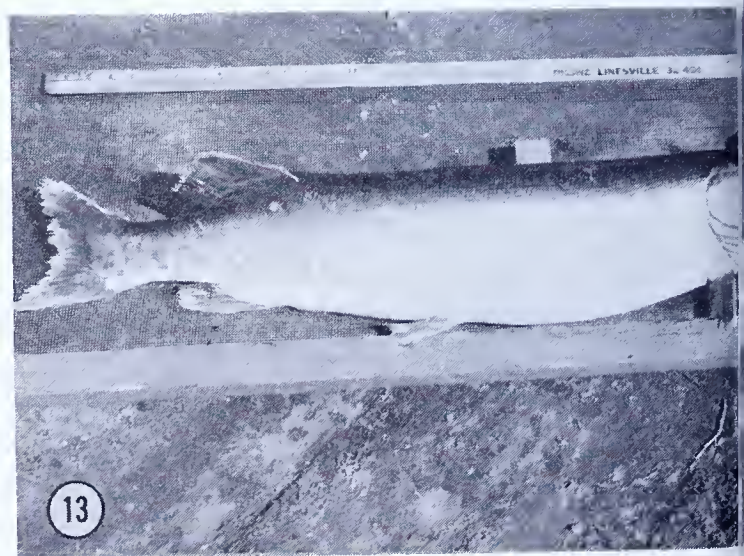
—C. R. Glover

A Signal Salute to Bill Walsh

One of our popular writers for the PENNSYLVANIA ANGLER, Bill Walsh, of Erie, obtained excellent coverage in the March, 1960, issue of SPORTS AFIELD. The article begins on page 40, with one full page in color. Entitled, "Discovering a River," Walsh goes on to illustrate the potential of float fishing the heavier streams in Pennsylvania. He points out a rather desirable route on the Allegheny River between Warren

and Oil City, making a note of the various accommodations to be had at the many restaurants and motels along Route U. S. 62, which parallels the river.

He puts emphasis on camping and cooking on the streams and his suggestions for sleeping bags and pup tenting we feel sure will find pleasant reception by the readers of the magazine.



The Start of a New Crop of...

Muskellunge for

In April each year the Pennsylvania Fish Commission a new crop of muskellunge, which are hatched and reared in fingerlings (6" to 12"), then planted in known musky and experimentally in other waters in an effort to establish the species there. This series of photographs illustrates the process of collecting the adults in the Pymatuning Reservoir and obtaining a supply of eggs for the musky hatchery rearing program. Following are brief descriptions



Pennsylvania Waters

(1) On the way to the musky nets. (2) Entering the
 (3) Got one! (4) Got another!! (5) Reaching for another!!!
 (6) The holding trough prior to stripping. (7) In the holding
 (8) Stripping eggs. (9) Not quite ready so into a hold-
 (10) Collecting for another go at stripping.
 (11) Back to the Reservoir. (12) Away we go! (13) A casualty.
 (14) . . . And the eggs it contained. For full story of
 this, see page 11. Photos by Johnny Nicklas.

Wonderful Fishin' You're Missin'

By **ROGER M. LATHAM**

Four cars were parked along U. S. 22 between Newport and Millerstown right where the Cocolamus Creek enters the Juniata River. I parked, too, and walked down the hundred yards or so to the river bank.

There were seven fishermen sitting on pieces of driftwood, an old rusty paint bucket and other miscellaneous kinds of seats. They had two fires going, because this was March and there was a definite nip to the breeze coming up the river. The makings of lunch were in evidence and one fire even had a little tin bucket held over it on a pole between two forked sticks.



TOM LYLE, 19, left, of Pleasantville, R. D. 1, and Lester Bean, 21, of Pleasantville, dug worms in their gardens on February 10 when the mercury hit 57 degrees. They went to the Allegheny River just north of West Hickory, Pa. (Warren County), to fish for suckers. The youths caught 48 pounds of suckers that one afternoon, whipping them out almost one right after another. Tom caught 14 and Lester accounted for 37. The six largest fish measured 19 inches and weighed four pounds. They cleaned the catch, froze the fish and had good eating for days.

Photo by—Frank S. Holowach

The men were warmly dressed, several having insulated short rubber boots, heavy coats and wool caps. But those sitting closest to the fires had unbuttoned their coats and appeared to be very comfortable.

These anglers were having a wonderful time. This was obvious from the big smiles I got when I walked down over the river bank and joined them.

"Where's your fish pole?" one asked.

"Aw, I have to go to Harrisburg for a meeting," I replied. "Just thought I'd stop to see how you're doing."

"They're hittin' pretty good. Look over here." He led me over to the water's edge and pulled up a piece of binder twine tied to a root. On the other end were nine real nice suckers from perhaps 15 to 17 inches long. The silvery, round fish looked awfully good to me, for I hadn't been fishing since the previous October. There were other stringers, too, and altogether the seven men had 28 fish.

Just then, one of the boys raced down to the water's edge where he had his two rods set. "I've got a bite," he said in a low voice as if he might frighten the nibbling sucker. He carefully removed the flat rock from the butt of his rod. Then he grasped his rod just above the reel but didn't move it from its position on the forked stick.

Shortly there was a tiny flutter of the taut line followed by some light tugging and twitching of the rod tip. But the fisherman still waited. Then the line began a rhythmic pulling and relaxing, a sort of steady tugging that sucker fishermen know so well. Somebody yelled, "Pull him," and immediately he snatched up the rod and set the hook by raising it high over his head. The line swished back and forth as he reeled and twice the fish rolled and splashed on top of the water. Moments later another firm, sweet-fleshed sucker lay on the bank.

This one was even bigger than the rest and actually measured 20½ inches. As he unhooked the fish, he said, "That's a big roe sucker. I like the eggs better than anything." Then he turned to me. "This is really fishin', ain't it?"

He didn't have to ask me. I knew it was and I couldn't resist the temptation of catching one myself. "Hey, John, how about letting me try one on your spinning rod?" With John's permission, I reeled in his light spinning outfit and examined the bait. It was about cleaned off the hooks. John's line held the usual

sucker rig. At the very tip was a fair-sized "dipsy" sinker just heavy enough to hold the line taut in the river current. About 18 inches above the sinker, a snelled hook was tied into the monofilament line. About 18 inches above this hook another was tied. The hooks were small, about size 6's or 8's, and the worms I baited with were the common small garden worm. The big night crawler is not a popular sucker bait because suckers have small mouths and won't take the large baits as well.

John suggested that I throw out at exactly the point where the cream colored water of the Cocolamus met the muddy red water of the river. "They lie right up against the muddy water looking for food being washed past." The line hissed off the reel, the sinker plunked into the water beyond the flow line, and I gently lifted the rod to bring the baits into exactly the right position. When the sinker hit bottom, I reeled in all of the slack line, put on the anti-reverse and set the rod with its top on a forked stick stuck in the bank.

I squatted behind the rod and watched the line intently. For two or three minutes only the slow, steady pulling and slacking of the current moved the line. Then suddenly there was an obvious twitch. I curled my fingers gently around the rod handle. Seconds later there was another twitch and then the line started to move. I jerked hard and felt the hook set solidly. The spinning reel drag was set lightly and the fish took several feet of line. When his run slackened I reeled, but he took off again and I lost more line.

"Darned if these suckers don't fight like a brown trout," I observed. "They bulldog, bore and shake their heads in almost the same way. And they have plenty of power, too."

My fish was about average—a nice white sucker of about 16 or 17 inches. When I mentioned that it was a white sucker, one of the men said he thought it was a black sucker. This touched off a discussion about the different kinds of suckers in Pennsylvania streams and lakes.

By far the most common is the white sucker which can be found in almost any pasture run, creek, river or lake from one end of the state to the other. This is the fish so often called the black sucker by anglers. Almost equally as well distributed is the hog sucker with its big head and its 4 to 6 dark chocolate saddle bands. This one is called "mullet" by Pennsylvania fishermen and is often found lying in shallow gravelly stretches of the stream where their color pattern blends well with the bottom. These are caught in the same way as other suckers but are bonier than most.

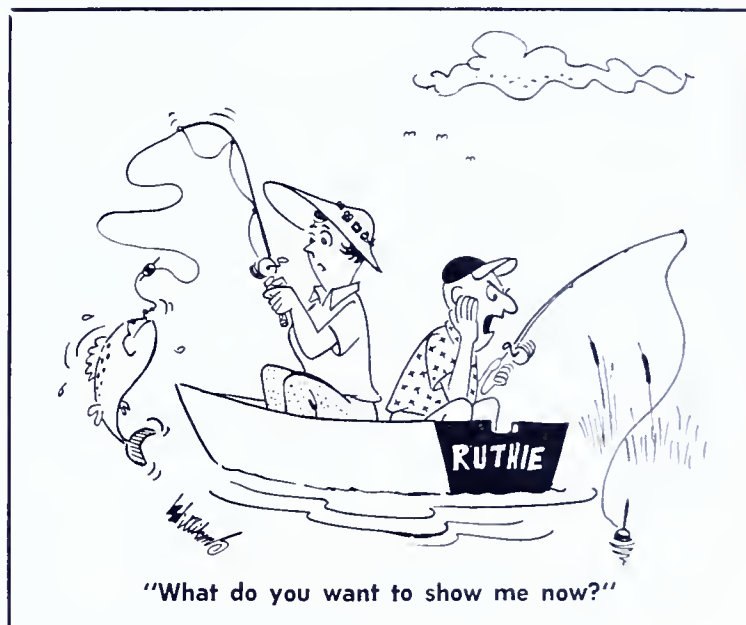
The spotted sucker is also found in the Susquehanna and Ohio drainages but is not too common. This fish seems to be intolerant to pollution and excess silt in the streams and has consequently become relatively scarce in many waters of the Commonwealth.

In the Ohio drainage, the redhorse sucker is rather

common. This handsome silvery fish with its reddish-colored fins is a more energetic biter and fighter than the bottom feeders. It will take baits in motion and are real "suckers" for the peeled tail of a crayfish fished at the lower end of a riffle.

Most Pennsylvania sucker fishermen use one or two rods and as many as three hooks to a line. The fish laws prohibit the use of more than two rods and one hand line and more than three hooks on any one line. The standard is the casting rod with an old easting reel. An expensive reel is not usually a good idea because it is sure to get full of sand sooner or later. Most reels used by sucker fishermen sound like coffee grinders but serve the purpose just as well.

Until recently, the standard line was braided silk or nylon but now the light test monofilament lines are popular. These do not have as much water drag as



the braided lines and "telegraph" the bite even better. Hooks should be high grade and preferably the short shank, salmon-egg type. They should always be sharp.

Although garden hackle is the accepted bait, it is likely that the larvae of various insects would work very well, too. Crane fly larvae (water worms), maggots, small grubs and similar baits should be good.

The best places to fish are those where suckers congregate. Favorite spots are where a smaller stream enters a larger one. Wide, flat holes in fast streams will usually attract more than an average number of suckers. Pools below falls, dams or culverts are other collecting places. In such water, the suckers usually occupy the tail portion of the hole where the current is not too strong.

Suckers bite best when the water is milky to muddy. They are not a clear-water feeder as a rule although there are some exceptions. They bite at night, but most anglers prefer the daylight hours when they can see their bites better.

The end result of sucker fishing, besides the fun and contentment of being along a stream in winter

or early spring, comes at the dinner table. Most everyone likes the flavor of a cold-water sucker, but not too many appreciate the numerous bones. However, this problem can be licked by careful picking or proper preparation.

For those who don't want to fiddle with bone picking, there are two ways of getting rid of the fine bones imbedded in the flesh. The first way is to fillet the fish, removing the meat from the ribs and backbone. Then the fillet should be cut lengthwise into thin strips just like breakfast bacon. Dip the strips in salted and peppered flour or cornmeal and fry in hot fat until crisp and brown. Now you can eat bones and all.

The other way is to cook the fish in a pressure cooker until the bones are soft as they are in canned salmon. This is likely to be rather tasteless meat, however, and should be made into chowder or served with a good fish sauce.

Who are sucker fishermen? They come from no particular walk of life, they are neither predominantly young nor old, and they often fish for a great variety of reasons.

There are some who like fish to eat and find sucker fishing rewarding for this reason. With an old cane pole or a cheap casting outfit, they are found at their regular spot two or three times a week during the sucker run. Their fun is in filling a stringer and later sitting down to a platter of sizzling brown fish. But almost certainly they derive other benefits as well, even though they may fail to recognize them.

Then there are those who use sucker fishing as an escape—to get away from the noise and tensions of their everyday life. To these people, catching fish is only incidental to their real purpose in being there. They want to rest, to listen to the soft sounds of Nature—splashing water and whispering winds—and to absorb the warmth and peace of the outdoors in spring.

But by far the greatest number of sucker fishermen are out there along the bank because they have “spring fever.” They want to go fishing so badly they can't wait until trout season. They want to sit around a campfire and swap stories. And they, too, want to watch while Nature is awakening—a flight of geese going over high in the sky, a pair of wood ducks romancing in the little cove upstream, or a muskrat exploring along the opposite bank.

The trout fisherman is too often a man driven by a desire to get his limit, to prove to his wife and to the other anglers that he is a real expert, and he too often goes home worn out, half mad and propagating ulcers. Not so the bank sitter who has nothing to prove, no pride to sacrifice and doesn't care whether he takes home a fish or not.

He is a contented man who seldom asks for much. He does not demand more and bigger fish stocked, a sucker hatchery, or special considerations. All he wants is a place where he can sit and fish, without worry about trespass, along a stream which has clean water and clean banks. Truly, he is the happy fisherman.

How Ice Movements Kill Fish!

Hundreds of carp, some of them as long as three feet and weighing as much as 35 pounds, were trapped and killed in a sudden ice movement last winter on the Susquehanna River at Accomac. John Price, proprietor of the Accomac Inn, said an unexplained rise in the river gorged ice at a point opposite the Inn about fifty feet off shore. Later the stream just suddenly dropped and the ice on the channel between the gorge and shore settled, stranding several hundred of the fish on the surface and trapping scores of others beneath the ice when it settled to the bottom. Shown holding two of the fish are Willis Trupe, Columbia, R. 2, left, and Price, right. About fifty other fish are shown on top of the ice.

The ANGLER points out that many fish are thus destroyed when heavy ice breaks up in the streams in Pennsylvania.



—A Columbia News Photo

Water Conservation Stamp

The fact that water is a vital and limiting natural resource is dramatized by the latest in a series of conservation commemorative postage stamps—the 4-cent water conservation stamp to be issued in Washington, D. C., on April 18, 1960.

No other resource so directly affects the welfare, comfort, and happiness of all the people.

Our national and personal need for water for domestic use, for sanitation, for manufacture, and for agriculture is multiplied each year by our expanding population.

Without water, soil cannot produce the food and fiber needed to nourish and clothe our rapidly increasing population.

More and more people each year are turning to water and water sports for leisure-time enjoyment.

But there is just so much water. The earth's water supply remains constant. We can meet these vital and rising demands for water only by better use of what we have—by reducing needless waste and pollution—by protecting the watershed upon which our water falls as rain and snow—by finding more efficient ways for its use.

Most problems of water shortage, poor water, or floods trace back directly to the land.

Whether or not the land in each watershed is eroded or is mantled by protective cover of grass and trees—whether there are small dams and other flood-preventing structures along the channels—whether steps have been taken to reduce pollution—these determine in large measure whether water supplies are ample



and reliable.

It is because of the dependence of water supply on watersheds that the commemorative stamp will be formally issued at the 7th National Watershed Congress in the Nation's capital on April 18.

The new water resources commemorative stamp will be available in local post offices on April 19, the day following its official issuance.

The unique two-panel stamp portrays a closeup view of a drop of water falling from a leaf, which symbolizes watershed influences upon water supply. This design leads the eye to a right-hand panel depicting an actual watershed panorama. A town and farm in the foreground are dependent on the upstream watershed with its well-managed farm and forest lands and small dams for flood prevention and water storage.

—Soil Conservation Service
U. S. Department of Agriculture
Washington, D. C., 1960

Water

*comes in oceans, rivers, lakes, wells, drops,
buckets, pitchers and glasses.
it quenches thirsts, cooks food, puts out fires,
makes coffee and brushes teeth.
it spins mills, runs electro-plants,
cools motors and powers factories.
it spawns fish, sprinkles lawns, floats boats,
washes children and grows flowers.
it sustains and nurtures.
it bends if you give it purpose.
it reshapes itself if you give it reason.
it is needed, wanted, feared,
praised and prayed for.*

*it is at the heart of all life.
it is in the arteries of all industry.
it is as close to us as skin
but as taken for granted as sky.
the end of water seems unbelievable.
if it is not on the horizon, it is just over it.
if it is not within sight, it is just 'round the bend.
if it is not in the glass, it is just in the spigot.
... this is the grand mirage ...
the self-delusion that prevails
though the wells run low
and the streams go dry
and the water slips away.*

—Missouri Conservationist

Go Wet for Bluegills

By **BILL COCHRAN**

If there's a man alive that doesn't like to catch bluegills, I haven't met him. The fact is, I've seen some pretty sophisticated trout and bass fishermen slip off for a day of bluegill fishing. And for good reason. Bluegills have what it takes to satisfy any fisherman—man or boy, expert or beginner.

As for me, I love to catch bluegills. I especially love to catch them when they are surface feeding. It thrills me to watch my fly slowly work across the water's surface, to hear the plunk of a bluegill when he hits it, and to see the whirlpool swirl as he sucks it in. For this reason, I always start bluegill fishing with dry flies, or poppers, or floating rubber spiders. But, unfortunately, I don't always find bluegills sur-



CASTING a wet fly to weed beds.

face feeding. When this happens, I'm certainly not above trying a below surface fly or lure. In fact, I find that it often takes more skill to catch bluegills below the surface than above.

It is well known that bluegills find the majority of their food underwater. Surface food is something like a dessert to them, or at least it comes in occasional flurries during the day. As a rule, you'll find all bluegills feeding on the surface or all feeding below the surface at the same time. There are few individualists among them. If I find they aren't surface feeding, it doesn't take me all day to tie on a below-surface lure or fly.



MY UNCLE preparing a three-fly string.

I favor wet flies for underwater work, but there are several other below-surface offerings worth carrying. I will list a few of them later, but first let's take a look at wet flies for bluegills. I prefer mine to be dressed in a rather drab color. Bluegills seem to be attracted to drab colored flies quicker than they are to bright fancy ones. The Brown Hackle, Blue Dun, Black Woolly Worm, March Brown, and Gold Ribbed Hare's Ear make good bluegill patterns. I prefer most of mine to be tied on hooks of size 10, 12, and 14.

The method used to fish these underwater patterns is much more important than the offering itself. Finding where bluegills are feeding is the first step. This includes both location and depth.

When fishing strange waters, I usually start by working my wet fly around weed beds and pond lilies or if there are docks, overhanging trees, logs, stumps, old boats, or anything that offers sheltered water, I am sure to give them a try. If these don't produce, I search the deeper water. I start by working my fly just under the surface. If I don't get a strike there, I keep letting it sink deeper, with each cast, until I catch several bluegills at a certain location. I have

then found the best fishing depth—for the time being, anyhow.

One of the hottest Labor Days I can remember found me bluegill fishing not far from my home. As usual, I started out by trying dry flies, but this time they didn't bring a stir. I then tied on a Brown Hackle wet fly and started fishing below the surface. I kept letting it sink deeper with each cast and I had almost reached the river bottom before I got my first strike.

The only way I could catch bluegills for the next three hours was to make a fairly long cast, then wait until my fly sank to the river bottom before starting my retrieve. I would then retrieve it in a painfully slow manner, but almost every retrieve brought a strike. I had to watch my line with the utmost care, because at that depth, a bluegill's strike was often only a slight tightening or a suspicious jerk of my line. When I saw this I had to strike fast to connect.

This little incident brings up the subject of retrieves. Bluegills will usually react best to a slow retrieve. They aren't built for speed like a trout, and they don't fancy running their fins ragged after a fast fly. Because bluegills live in still water pools and ponds, the action of your fly must depend on the movements you give it with your rod and line. A good bluegill retrieve is merely a series of gentle jerks administered by the tip of your fly rod. If bluegills are feeding near the surface, a large area of water can quickly be covered while using this method, but if they are feeding near the bottom you must wait for your fly to sink before beginning to retrieve it. A little leader sink preparation or a small split shot will help make a wet fly sink faster. While fishing deep, considerable attention must be given to the line in order to denote a strike. A wet fly fishing strike won't always be felt as a bait fishing strike is. It must be seen. A bluegill will quickly discard a fly when he mouths it and discovers it not to be real. To connect, you must school your reflexes to strike back at the slightest twitch or tightening of your line. This is an important key to successful bluegill fishing. I sometimes find myself striking at nothing, but my quickness more than often pays off in bluegills.

A wet fly will often be struck as it sinks to the bottom, so careful attention must be given from the time it hits the water.

The deep retrieve differs little from the shallow one. When your fly reaches the desired depth, you can begin a retrieve of jerks and pauses, keeping it at an even depth or bringing it slowly to the surface. Sometimes a slow steady retrieve will bring more strikes than a jerky one. A variety of retrieves may be used depending on the occasion. I often retrieve my fly a few feet toward the surface then let it drop back to the bottom again. This seems to be a good trick to take bluegills.

I generally fish only one wet fly at a time, but many fishermen prefer to use a string of two or three flies. I

have an uncle, who is a strong believer in the three fly string. On his farm there are a half dozen ponds which he claims are for watering his cattle, but I know better. Each one is stocked with bluegills and some even have a fence around them so that the cattle can't get near them. While fishing his ponds he spaces two dropper leaders above his base fly. On the dropper leader nearest to his line, he ties a fairly light colored fly, which makes it easy for him to follow in the water. His second fly is usually darker, and his base fly is the darkest. I have often seen him catch two bluegills at the same time, and it's not uncommon for him to hook and land three.

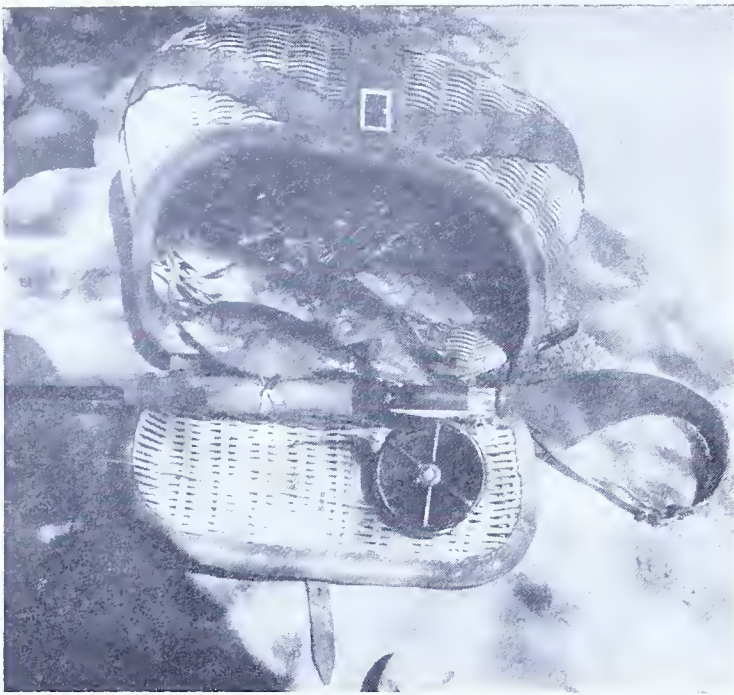
Earlier, I said that my average bluegill flies are tied on hooks of size 10, 12, and 14. These serve me well most of the time, but occasionally I must go digging in my tackle for a much smaller fly. One evening, just a few hours before dark, I was fishing a small farm



CAREFUL ATTENTION must be given to your line during a retrieve. Strike back at the slightest twitch.

pond. I tried my favorite dry and wet flies without luck. In fact, I had tried almost everything I owned with only a few feeble strikes as a result. Bluegills are that way sometimes. They aren't pushovers by a long way. My poor luck sent me digging into my rear fishing-vest pocket. I came across a box of small flies—sizes 16 to 20—that had saved me from fishless trips many times before. I quickly tied on a size 16 Adams. True, it was a dry fly, but I fished it wet, just under the surface, and caught and released over 75 bluegills during the next two hours. By the time it was dark my little Adams was almost worn to the hook.

For bluegills I like a lightweight fly rod in order that I may get the full enjoyment out of the scrappy little fellows. A 7½ to 8½ foot rod will make a good one. It should be matched with a good fly line. I pre-



THESE SCRAPPY bluegills fell for a sunken rubber spider.

fer mine to be double tapered and I also like a lightweight tapered leader.

Now let's take a look at some underwater offerings other than the conventional wet flies. In the first place, several nymphs should be included in every bluegill

kit. Don't shake your head sadly when nymphs are mentioned, because they are no harder to use while bluegill fishing than wet flies. Every method I have mentioned for wet fly fishing can be applied to nymphs. Quite often their looks and creeping-like action will attract bluegills better than wet flies.

A few streamers should also be carried. They can be fished much like ordinary wet flies or nymphs; however, a quick dart, then pause method of retrieve seems to be most attractive to bluegills. It pays not to make the action too fast, because bluegills don't like a tough chase. A fly and spinner or small spinner can also be used much the same way as streamers.

Sometimes a few little odd-and-end lures that most fishermen carry come in handy for bluegills. One morning I was fishing a farm pond during a hard rainstorm. I told myself that I was crazy even to be out, but bluegills will often make me do odd things. Dry flies were out of the picture and my wet flies weren't accomplishing much. For some reason I tied on a black rubber water spider equipped with white rubber band legs. It was a surface lure, but I wallowed it in the mud until it sank when it hit the water. By retrieving it under water in a way that allowed the legs to work back and forth in a swimming-like motion, I caught sixteen nice bluegills besides a bad cold. Like I said, I love to catch bluegills.

Bob Miller

(Editor's Note: Robert J. Miller of the U. S. Coast Guard Auxiliary and a licensed Captain on the Chesapeake Bay, has contributed of his time and valuable knowledge in schooling many people including personnel and wardens of the Pennsylvania Fish Commission, in the safety and proper navigation of motorboats on Pennsylvania waters. Out of this service has come the following poem of gratitude.)

From Ireland's beach to far beyond
Her lovely green and quiet pond,
Marvelous for tough old stock,
Chip of the Anglo-Saxon block,
Seems the Celtic Bob Miller.

Irish of the Irishes
Hate nor greed were never his;
Sober with his boating folks;
Merry with his quiet jokes,
That's Bob Miller.

I have loved the tales they told
Of his Homeland, strange and old,
Where the fairies dance till dawn
And the Goblin Leprechaun—
Could it be Bob Miller?

On a calm and work-free day
You'll find him on a waterway,
Running a boat with compass and bell
And if nearby, you may hear him yell—
Ahoy' Captain, Bob Miller.

Our instructor at boating school
We soon learned was no man's fool,
When it came to bow or stern,
Port or starboard, he made us learn,
'Twas Bob Miller.

So, we thank you, Captain Bob,
You have done a real fine job,
As time goes by we'll think of you
And follow the course we should pursue,
Thanks again, Bob Miller.

W. W. Britton, Chief
Division of Law Enforcement
Pennsylvania Fish Commission



BOOK REVIEW

Angling Know-How

By Robert Walker and Ella M. Walker

74 pages, soft cover. Line drawing illustrations. Published by Riegel Printing Co., Trenton, N. J.

Each of the 74 pages of this handbook on angling treats a separate phase of fishing and the many facets of methods, tackle, etc., attending the sport. The book actually is a series of features of the "Ed Dodd" (creator of Mark Trail) type. Each contains its gems of fishing lore, hand-printed rather than in type, and sketches rather than photographs.

It's the kind of a book one can pick up at any time and spend one minute or one hour with it without the need for back-tracking, then put it down with a bit more knowledge for the time spent.

Musky Fishing

By Joseph W. Jackson

128 pages. Illustrated in black and white. Published by Joseph W. Jackson, Madison, Wis.

"What to do and what not to do as told by three old guides," is actually part of the book's title.

Here is another book of instruction for a fisherman and especially for one who wants to prepare himself for battle with the "fresh water tiger," as the muskellunge is rightly named. Pennsylvania fishermen will do well to bone up on the subject. For while the musky is at home and becoming more numerous in the waters of the northwestern corner of the state, the Fish Commission's effort to extend its range to other sections, if successful, will require some musky fishing know-how if fishermen are to avoid skinned knuckles, burnt thumbs, and busted tackle, much less losing every musky they tie into.

In "Musky Fishing" is condensed about 150 years of experience. It takes the reader through the required

tackle and lures, fishing methods, muskies and their habits and all of the characteristics of the species that drive a fisherman into a state of enthusiasm more commonly associated with the salmon fisherman.

This most definitely is not a fish story, rather it is a musky fishing "bible," written in an easy to understand manner.

Worming and Spinning for Trout

By Jerry Wood

156 pages. Illustrated in black and white. Published in 1959 by A. S. Barnes & Co., 11 E. 36th Street, New York 16, N. Y. Price \$3.95.

Here is a book that lifts worm-fishing to an art that surpasses dry fly-fishing and could remove the worm-fishermen from the scorned category of meat fishermen. Once acquired, the methods described by Author-Fisherman Wood will put those hard-to-take lunkers—and their smaller cousins, too—on the business end of your outfit regardless of stream conditions or time of the year. The usual hurdles of description and instruction by words alone is overcome very nicely and with easy-to-read and understand prose.

Worm-fishing as described will enable the employer to become a "put-'em-back-alive" sportsman who will inflict very little, if any, more harm to a trout population than the fly addict. Parts of the whole secret are small worms, small hook worm-gangs, strip lead and monofilament. "Reading the stream" is another important element. The education this imparted on that phase alone is worth the book for any trout fisherman.

The spinning chapters are actually a bonus. Further, the described procedures can more easily be acquired by a spin-fisherman than can the worming method it treats. In combination the two talents will bring you face to face with more trout than you ever dreamed possible.

Some Hints for Cabin Owners

By HENRY H. GRAHAM

Many cabin owners have an open well near the door. The well is covered only by a lid, water being obtained by means of rope, pulley and bucket. Sometimes wild animals get into such wells and cannot escape. The water thus becomes polluted by the decaying bodies. If the well is not too deep it may be easily inspected in the following manner. Have someone stand a few feet from the well and hold a good-sized mirror so that it catches and reflects the sun's rays. Another person stands beside the well with a mirror angled so that when the sunlight is reflected on it from the other mirror the light beams are thrown

on the water. This light will penetrate clear to the bottom of most wells. By moving the mirror one can easily inspect the whole interior from the surface of the water to the bottom, thus spotting anything foreign. One of my friends followed this plan and discovered the remains of a ground squirrel in the water. It was fished out with a long rake, several hundred buckets of water were removed and then a purifying chemical put in. When the water was tested it was found safe to drink.

Spring freshets often eat away at stream banks near cabins, gradually cutting down the size of the land. One cabin owner of my acquaintance felt that he was going to lose his whole back yard within a few years. Then he hit upon a happy idea. Using a wheelbarrow he hauled in a lot of earth, sand and rocks, building up the bank. Not only did he use dirt and rocks but he buried in the mass a lot of tin cans and other junk, thus getting rid of them and still helping to preserve his property. Before long this man sowed some grass seed on the embankment. He also planted willows and other shrubs which quickly took root, largely owing to close proximity of abundant water. These and the grass strengthened the embankment and helped to prevent further damage to the land.

It is a good idea for cabin owners whose places are located in the deep snow country to brace the roof of the building unless the latter is extremely sturdy. Deep snow is very heavy and may in time weaken rafters, causing the roof to collapse. If it breaks down while the owner is absent the snow, rain and vermin may do a lot of damage before repairs can be made. Usually it is only necessary to support the roof with some four by fours. Even good strong poles serve the purpose nicely. They must, of course, be placed where they will do the most good—where the strain is greatest. Flat-roofed structures are in special need of protection.

The radio aerial should be disconnected from the set and hooked to a rod driven into the ground outside when one leaves the cabin for any length of time. Then if lightning strikes—and electrical storms are often bad in the mountain country—it will go into the ground instead of the house. Thus, the danger of fire is almost negligible from this source. Some people fail to take the above precaution and have their cabins burned to the ground.

A LUNKER



THIS 24-INCH long lake run rainbow trout was caught by Mrs. Lillian Shreve of Conneautville, who proudly displays it. The fish was caught at 7:00 a.m. in Conneaut Creek and weighed five pounds.

"Something New Under the Sun"

By **CLIFF ZUG**

A trout fly, no matter if it be a dry fly, a wet fly, a nymph, or a streamer, are generally tied in standard patterns by the author. There are, however, two exceptions. One is the Zug Bug, a nymph-type devised by myself some years ago (and now standard in many localities), and Keim's Best Chance, a streamer. Keim's Best Chance is one of the greatest streamer-type trout flies I've ever used.

Some years ago Frank L. Keim invented this streamer and used it for smallmouthed bass in many of our eastern bass waters, St. Croix River (Maine) especially. He took bass after bass with the streamer, while many other anglers could do nothing. In June, 1939, he tried out the Best Chance (it was called Keim's Killer at that time) on Spring Creek within Fishermen's Paradise, the beautiful trout project operated by the Commonwealth of Pennsylvania. Tied on a trifle smaller size hook, Keim's Best Chance took a brown trout of 25½ inches and an even 5 pounds. The following day Keim used the nightmare streamer again, and took trout after trout; he finally settled for a brown trout of 4¾ pounds even. Satisfied no other angler had seen his offering, he kept the streamer a secret until 1958.

My first experience with the Best Chance came in August, 1957. Trout were "down" and fishing for them with a dry fly or wet fly was almost useless at the Old Red Brick Mill Trout Club, a private organization at Speonk, N. Y., of which Keim and myself are both members. I was almost disgusted and ready to quit at dinner-time, and had but one small brook trout to show for my trouble all morning. Sitting in the shade near the first rearing pool, I dumped the contents of my creel on the grass and shoved the brookie to Frank. He smiled, got his own creel from willow tree, and showed me what he had caught during the same time.

There were four huge trout, two rainbows, a brown, and a whopping big *Salvelinus fontinalis*! The fish ran from 3½ to 4¾ pounds, and every trout beautifully colored. Naturally, I asked him: "What lure?" Keim told me a streamer fly. I whipped out a streamer case and was about to ask him which one when he told me never bother looking, for I didn't have it anyway. I carry about 25 or 30 streamer patterns along and this was hard to believe.

Then, he dug down in his own fly box and came up with a fly tyer's nightmare. "Buddy," he said, "I'm going to give you the kind of fly I've been using all morning. But remember, never tell anyone else what

you've been using!" I certainly agreed.

A queer looking streamer, and tied with a big white head, I used it as Frank had instructed and let the streamer sink quietly to the bottom of a big pool. Then, I began its retrieve, retrieving it erratically and at a slow speed. On the third pull the water boiled—the line tightened—and a huge rainbow tried to climb the sky! I finally landed the trout, and when weighed in we found he went 4 pounds even. Needless to say, I continued to use this streamer the rest of the day, and landed brook trout, brown trout, and more rainbows. My biggest trout caught that day went a trifle over 4½ pounds, and was a brown trout. The streamer fly was truly exceptional, but I kept Frank's secret fish killer under my hat.

A Dandy from Wallenpaupack



THIS FINE 31-inch walleye, weighing 10¼ lbs. was caught by Glenn Dirk from Lake Wallenpaupack. Dirk hails from Tafton, Pike County.

Tense and Worried? If So, Go Fishing

By HENRY H. GRAHAM

One morning at my mountain cabin I felt blue and discouraged. Things had not been going too well and I was deeply concerned about a number of matters. The more I thought about them the more upset I became.

Walking out to the nearby trout stream, I saw a speckled beauty about a foot long leap into the air for an insect. A tingling sensation shot over me, for I love to fish. But this morning I could not seem to get my mind on anything but my troubles. I could have swallowed a tranquilizer, of course, but for some reason I decided against it. Instead, I went into the cabin, half-heartedly strung up my rod, put on my boots, threw a creel over my shoulder and fared forth upstream alone, at first just plodding along with unseeing eyes.

It was a beautiful day. Bees were extracting nectar from wild flowers. Overhead a chicken hawk cruised languidly. A gentle zephyr rustled the leaves of the aspens. A nimble chipmunk scurried the length of a moss-covered log. But somehow I seemed out of tune with the world around me.

Disinterestedly I cast a Royal Coachman fly on the glassy surface of a pool. There was a sudden, lightning strike, I set the hook and soon had a ten-inch beauty in my basket. For a moment at least my worries and problems were drowned in the thrill of success. There was an instant of sheer ecstasy.

A hen mallard followed by six downy ducklings swam leisurely past. A beaver plopped into the water from a grassy bank. In mid-stream an ouzel stood on a granite rock, bobbing up and down characteristically. The rat-tat-tat of a woodpecker reached my ears from a point not far up a green mountain slope. All Nature seemed to be on parade that day.

Working my way up the crystalline brook, I steadily added to my piscatorial collection and within an hour had the numerical limit of nice trout of varying sizes. From time to time I sat down on logs or rocks to rest and admire the rapturous beauty of the outdoors.

Upon returning to the cabin I was in much better spirits. My problems no longer assumed gargantuan proportions. They did not appear so hopeless. While casting for trout a solution to several of them came to me. And I decided that, after all, they were not really as important as my imaginative nature had made them anyway.

This experience taught me the great value of fishing as a sedative to the nerves. Now I realized why so many doctors say to their worrying patients, "Go fishing. It will do you a lot of good." They know what they are talking about.

There is something about fishing that is wonderfully relaxing and stimulating. Perhaps it is the quiet beauty of the countryside, the limpid splendor of the rippling stream and the sheer joy of bringing in a squirming prize. Somehow, when one fishes his troubles seem more solvable. They may not melt into complete



"What the --? Hand me that net!"

insignificance but at least fishing helps to put one in the proper frame of mind to tackle those problems and whip them.

One lovely morning many years ago while fishing far up a lonely, almost-forgotten valley, I unexpectedly encountered a fellow angler. Introducing ourselves, we shared a bottle of steaming coffee he had with him, and sat on the bank of the stream talking.

"I'm trying desperately to ease my worries," this man told me. "We have a son in the thick of the Korean fighting and hardly draw an easy breath. We live in fear that one of those awful telegrams will come from the war department. So we decided to get away from home for a few days and are camped about two miles from here. Both my wife and I love to fish and

on a small brook like this prefer to go alone rather than together.

"You know, although I've been out only a couple of hours I already feel definitely more relaxed than I have for weeks. The lovely wild flowers, the birds, the arching blue sky and fair success with my rod have combined to bring a little joy to my heart. The exercise has helped, too. I'm even somewhat hungry now for the first time in a long while. My wife is out fishing, too, and I hope she has been able to get her mind off her worries a bit as I have succeeded in doing."

So many similar stories have been related to me over the years that I have come to regard fishing as a great medicine—sort of a recreational therapy. It does not matter much where one's fishing is done. It may be on a stream, in mid-lake, the ocean or he may fish from the bank of any sort of body of water. The important thing is to fish and really work at it.

When deeply troubled or perplexed many people

find it preferable to strike out alone. For them solitary fishing seems to produce better results, not only in fishing itself but in acquiring at least some measure of mental peace. Others prefer companionship. The presence of others cheers them. So do the exchange of remarks and the gay laughter usually found in a group of people.

How about you, Reader? Are you ever depressed? If subject to spells of melancholia why not fare forth with rod and reel? The experience will do you a great deal of good if you make a determined effort to relax and concentrate on the business in hand. In the beginning you may not feel equal to the trip, but if you force yourself to go you should be richly rewarded with a sunnier frame of mind not to mention something for the oven or frying pan.

Try fishing when you are blue as well as when life rolls along smoothly. It is a great panacea for what ails you at the time.



CONSERVATION ACROSS THE NATION

Licenses Down!

The Michigan Conservation Department in a recent release noted the continued decline in fishing license sales there—down some 128,000 in 1959, from an all-time high of 878,668 in 1954. Meanwhile, trout stamp sales which stood at approximately 234,000 in 1956 skidded to 190,000 (25 per cent of the licensed anglers) in 1959.

Unless revenues are increased by some means in Michigan, cutbacks are held to be inevitable in fishery research, lake and stream improvement, fishing site acquisitions, as well as law enforcement, administration and public information services, and possibly in the hatchery program.

Trout Mortality

Virginia's latest report submitted to the U. S. Fish and Wildlife Service disclosed interesting findings on trout mortality in stocked ponds. In two newly constructed state-owned lakes anglers accounted for 70 per cent and 73 per cent recoveries. The total recovery of both lakes when drained at the end of the season was 75 per cent. Thus despite substantial catches by anglers there was a significant natural mortality. The findings show once again that nature takes her toll regardless of fishing harvests—or lack of them, for that matter. In the latter event, annual natural mortality simply becomes much greater.

Well Deserved Award

The U. S. Department of Agriculture's "Conservation Citizenship" award was presented by Secretary Ezra Taft Benson to the Boy Scouts of America on the occasion of the annual Boy

Scout week earlier this year. Cited were the some two million merit badges in conservation and resource use and agricultural categories earned by Scouters since 1911. Cited also were the following achievements by Boy Scouts at the end of the National Conservation Good Turn Year: 41,721 projects in soil and water conservation; 38,125 projects in forestry; 29,323 projects in fish and wildlife conservation; 30,450 projects to eliminate litter along waters, parks and highways; 40,940 conservation exhibits and the distribution of more than three million conservation posters.

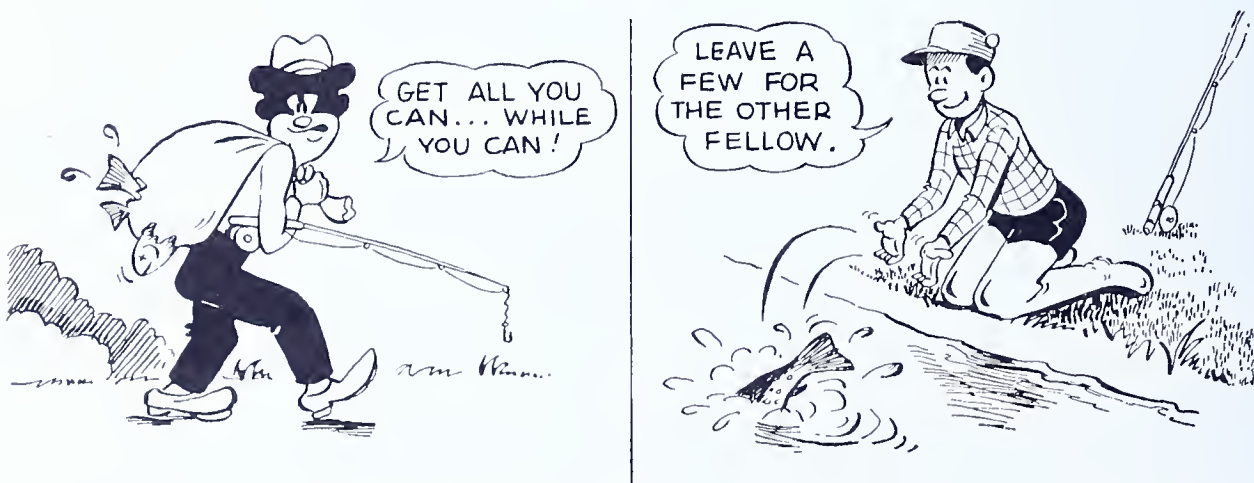
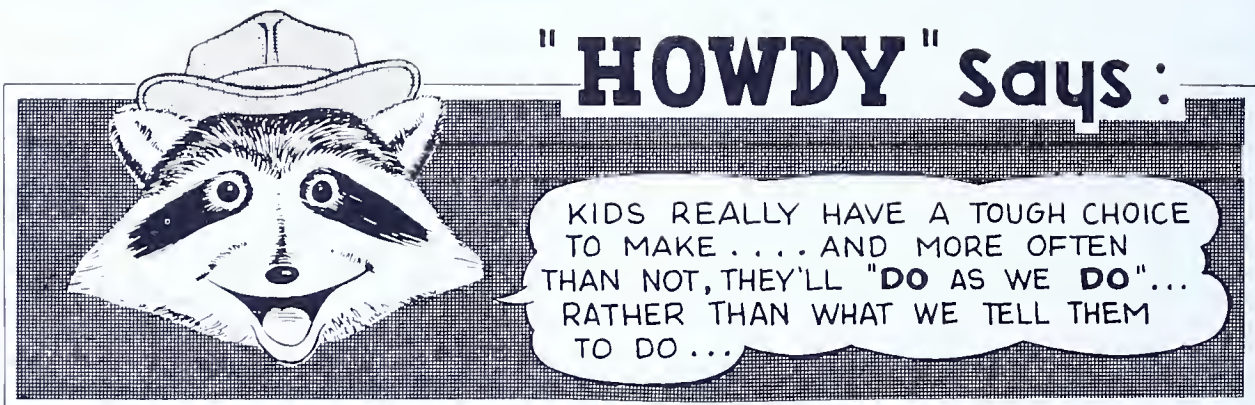
Fee-Fishing Ponds

There are about 1,500 fee-fishing pond operations in the United States, according to a recent survey by Roger Schoumacher, University of Michigan graduate student. Most of these "catch-out" ponds have been opened since 1945, and are most numerous in Pennsylvania (238) and California (186).

Responses to Schoumacher's questionnaire showed that 55 per cent handled trout only, 16 per cent warm-water species only, and 29 per cent handled both. Operators usually charged 10 cents per inch, or \$1 to \$1.50 per pound of fish caught, and required anglers to keep all fish caught. Trout were typically stocked at 1,000 to 2,000 per acre, and were from 7 to 15 inches long.

Schoumacher concluded that catch-out ponds provide recreation, but do not make a significant contribution to the overall sport fishery of any state. Most catch-out pond operators had less than 3 ponds, totalling 4 acres, with annual incomes under \$3,000.

—Sport Fishing Institute Bulletin



... SO .. IN ORDER TO BUILD **GOOD** SPORTSMEN , WE ADULTS MUST SET THE **RIGHT** EXAMPLE & REALLY .. **PRACTICE ,**
"GOOD OUTDOOR MANNERS"

1.6
c.

PENNSYLVANIA

ANGLER

PENNSYLVANIA FISH COMMISSION

MAY, 1960



MAY 13 1960

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DOCUMENTS SECTION

Dialogue in B-Flat

"One thing seems certain," said the Old Philosopher, stroking his beatnik-like beard. "With a growing population, we've all got to yield some sovereignty as hunting-and-fishing individuals for the masses of our population."

"You're saying Daniel Boone is dead," I interpreted.

"Oh, he's been dead for a long time," said the O. P. "What *I'm* saying is that your own boyhood has also passed on."

"Not that you're really ancient," he added, a shade too hastily. "But 'untrammelled wilderness' is a comparative thing; the 'wild, free spaces' of your youth probably are housing developments today, and the tangled banks of my boyhood creek are now the manicured slopes of a park lagoon. Yet that lagoon may still be freedom of a restricted sort to youngsters of today, even if they've had to yield up some sovereignty over campfire building or nude swimming."

"Pertinent," I said. "What does 'untrammelled' really mean?"

"Don't interrupt profundity with irrelevancies. You will agree with me, certainly, that in any form of government we concede personal privileges to authority. You may object to speed limits being too low—or too high, if you're trying to cross the street—but you agree that no man should drive at whatever speed he likes at any time. Yet you *own* your car; in a different sense you even own the street. In the name of the common good—here meaning people's rights to live out their appointed span—you yield up your sovereignty. You do not argue that pursuit of happiness involves maintaining a speed of 60 miles per hour during the rush period on Market Street.

"Further, since you are not particularly delinquent

and are juvenile only in your emotions, you concede your right to wander freely as a eloud, trespass laws may harass you but they also *protect* you.

"Consider: as the motorear took over human life, men conceded once-inviolable 'rights' of the Era of the Horse. As the cities grew, we yielded up other sovereignty: clear air and water, the right of privacy, the privilege of not being jostled. We conceded movie houses and cafeterias had a right to queue us up before taking our money; we submitted our driving and walking to the tyranny of a stop and go sign.

"We conceded many privileges because we *had* to yield if a million of us were to live in a small space and still have a chance for peace and safety. Ants can't behave like eagles."

"Apt imagery," I admitted, grudgingly, "but is it cutting any bait?"

The Old Philosopher shrugged. "I shall spell it out for you, then. Kit Carson could blaze away with his fowling piece at random; Mr. Ouri must look out for cattle, homesteads and, unfortunately, goats. Jim Bridger could wander on whim or fancy; his great-great-grandson must watch for trespass signs, political boundaries and a million other people engaged in identical pursuits. We may sigh for days that are gone and lament absence of 'freedom,' we may live in the television fantasy of a West that never was; but few of us flee from the curse of central heating and indoor plumbing.

"In Thomas Wolfe's phrase, *You can't go home again*, whether to fishing or buggy-driving. Do you understand me?"

"Well," I said, "I'll think about it."

—Dan Sauls, *Missouri Conservationist*

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Photo by Johnny Nicklas

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Part I

Will Research *STOP* Truck Followers

By **KEEN BUSS, Biologist**

Benner Spring Fish Research Station
Pennsylvania Fish Commission

Photos by
Johnny Nicklas



NINE FISHERMEN, from occasional to expert—three each using flies, worms and spinners—at work in section No. 1 on the first day of the experiment. For catch figures see chart on page 3.

They said it couldn't be done, but research may have done it. It wasn't a case of reducing the tars and nicotine, but a problem of filtering the truck followers from the trail of the hatchery truck, for years the principal irritant to many trout fishermen.

There were two schools of thought on controlling the malignancy. One said keep the stocking a secret, then everybody has an equal opportunity to enjoy the rewards of mid-season plantings. The other school said that if plantings were unpublicized the few lucky persons who saw the stocking could, with their friends, clean out the stocked fish before others knew that the stream had been replenished. So the argument went. It waxed hot and burned to no solution.

The ashes of the impasse were scooped up in Pennsylvania by the Fish Commission. They couldn't be blown away; they were too weighty. The research staff at the Benner Spring Fish Research Station was called together by Dr. Albert S. Hazzard, assistant executive director, to consider the problem.

There was one starting point. New Jersey hatchery men had observed that when trout were fed pellets immediately before planting, they did not bite as readily as unfed trout. However, since they had no documented evidence, a controlled experiment designed to test thoroughly the observation, was in order.

It was known that fish fed the old hatchery diet of fish and meat could not be transported without starving them for two or three days. Their higher rate of

metabolism due to such feeding caused the fish to consume more oxygen and to give off injurious waste products. Also, they often regurgitated the coarsely ground meat products which then clogged the circulation system of the stocking trucks. Another New Jersey observation was that these adverse effects were not present when the trout were fed pellets prior to stocking.

Subsequent tests by the Pennsylvania Fish Commission indicated this: full loads of starved and pellet-fed trout, each transported for six hours, revealed no significant condition differences nor evidence of motion sickness.

This finding was sort of a bonus of the experiment that was scientifically designed to investigate the returns of starved versus fed trout. To facilitate the design of the experiment from the planning stage to interpreting results and to add credence to the findings, Dr. Henry Fortmann, statistician and assistant director of the Pennsylvania Agricultural Experiment Station of the Pennsylvania State University, was consulted. Dr. Fortmann not only designed the study and interpreted the results but also uncovered information to aid the fishermen in catching the different species of trout. The latter will be included in Part II of this article, to appear in a later issue of the ANGLER.

The plan was to run two fishing experiments a month apart, under like conditions, in specially prepared raceways at the Commission's Benner Spring Research Station. On each occasion, nine hundred trout of approximately the same sizes (8"-11") were selected. Three hundred each of brook, brown and rainbow trout were used. One hundred fifty of each species were starved three days before "shipping." The

rest were fed pellets immediately before “shipping.” The trout were hauled for an hour over nearby roads then back to Benner Spring, and placed in three screened sections. Each section received fifty starved and fifty fed trout of each species. All groups were marked distinctively by fin clipping. Nine fishermen were selected to do the fishing. They ranged from experts to occasional fishermen. Three men were assigned to use worms, three to use artificial nymphs and three to use spinners. The spinner was included to determine, if possible, whether there was a difference between starved and fed fish and their desire for natural appearing baits and attractor baits, as some fishermen feel that fish hit attractor baits out of pure cussedness rather than hunger.

The first day the first section was fished. Twenty-four hours later the second section was fished and thirty-six hours later the third section was fished.

The sections were divided into nine stations and a plank put over each station to give the fish cover which also served to slow the movement of fish to the extremes of the section. Each man fished each station for ten minutes, the fish caught were checked and tabulated, after which the fishermen moved to the next station. The sections were fished simultaneously by spinner, nymph and worm fishermen. Total fishing time each day was ninety minutes.

The results indicated that feeding fish before shipment may well be the answer to the truck following problem.

PERCENTAGES OF AVAILABLE TROUT CAUGHT ON
SUCCESSIVE DAYS FOLLOWING STOCKING

FIRST EXPERIMENT

Species	First Day Catch Section No. 1		Second Day Catch Section No. 2		Third Day Catch Section No. 3	
	Fed	Unfed	Fed	Unfed	Fed	Unfed
Brook	23%	72%	58%	70%	63%	79%
Brown	12%	34%	26%	40%	24%	28%
Rainbow	18%	28%	20%	30%	16%	34%

SECOND EXPERIMENT

Species	First Day Catch Section No. 1		Second Day Catch Section No. 2		Third Day Catch Section No. 3	
	Fed	Unfed	Fed	Unfed	Fed	Unfed
Brook	24%	50%	64%	71%	60%	64%
Brown	14%	38%	14%	24%	24%	26%
Rainbow	8%	16%	13%	14%	34%	38%

But they say it is what up front that counts. So, borrowing the idea of another cigarette pitch, but with slight alteration, it can be said that research at Benner Spring may have uncovered the most important quarter inch in stocking today—the pellet.

The Fish Commission has approved a plan to test the results of this research on a practical basis in some of the regularly stocked trout waters of the state. Seventeen waters have been selected for the test. During the in-season stocking period of 1960, equal num-

bers of starved and pellet-fed trout will be stocked in these waters. The local fish wardens will check the catches of as many anglers as possible on the designated waters for *about* three days following planting. Because the trout in these experimental plantings will be distinctively marked—by lots—it will be possible for the wardens to separate the lots in his records. When the information from all test waters is compiled, an indication of the value of this stocking “gimmick” should be obtained.

The Commission points out that the purpose of the plan is not to prevent fishermen from catching stocked trout but simply to decrease the high catch which frequently occurs immediately following stocking. Even a twenty-four hour delay in the catch would allow the trout to distribute themselves more uniformly in the streams and would probably spread the catches among more anglers.

The trout waters in which this test will be made during 1960 are:

East Fork Sinnemahoning Creek,	Potter County
Genessee Fork of Pine Creek	..... Potter County
Mill Creek	..... Potter County
Mahoning Creek	..... Montour County
Gray's Run	..... Lycoming County
Blue Eye Run	..... Warren County
Conneaut Creek	..... Crawford County
Dunbar Creek	..... Fayette County
Keystone Lake	..... Westmoreland County
Shober's Run	..... Bedford County
Whites Creek	..... Somersct County
Haldeman's Pond No. 1	..... York County
Horse Valley Run	.. Juniata and Perry Counties
East Branch Dyberry Creek	..... Wayne County
Shohola Creek	..... Pike County
Ridge Valley Creek	..... Montgomery County
Cedar Creek	..... Lehigh County



TABULATING the Catch.

What Flies? When?

By DICK FORTNEY



MAKE FLIES in a range of colors from somber dark hues to bright shades to keep pace with the cycle of colors in natural insects. Does the lady tyer surprise you? She shouldn't, for women also are excellent fly stylists and trout anglers.

A grizzled old-timer who many, many years ago initiated me into the mysteries of fishing for trout with dry flies gave me a rule I have always remembered and which all anglers will do well to keep in mind at this season of the year.

"How do you know what patterns of flies to use?" I asked him.

"It can be confusing," he admitted. "There are hundreds of patterns of flies, and there are many kinds of natural insects on which trout feed. To match the natural with the imitation is not easy.

"But there is a rule—a fact of nature—that will help a lot. Virtually all of the natural flies in evidence at the beginning of the trout season are dark in color. As the season progresses, they are joined by insects of lighter colors. By the end of the season, there also are insects of the very lightest colors.

"You are on safe ground, therefore, if at the beginning of the season you use flies that are dark gray or blue, dark brown, or even black; if by midseason you are turning frequently to flies that are of medium light color—grizzly, tan, and bronze blue, for example—and by the end of the season you use, in addition to all of these, flies in such hues as cream, light ginger, light badger, and even white."

Of course, this is a broad and general rule. But some such rule is needed as a guide at times when there are no natural insects in evidence to give the angler a guide to the pattern to use. We all know how frequently those periods occur, and when the problem is to select a fly that will bring rises from trout that are not actively feeding.

One important word of caution: Do not interpret the rule to mean that early in the season you use dark flies, then in midseason discard them and begin using

flies of lighter colors, and later on lay aside both earlier groups and use only flies of the lightest shades. The dark-colored flies will continue to take trout throughout the season, and the flies of medium-light colors will prove effective from midseason to the last day. One group does not replace another. Rather, each group supplements the other and gives the fly-fisherman a wider variety of patterns from which to choose.

A perfect example is the Quill Gordon, with its peacock quill body, its bronze blue dun hackle and tail, and its Mandarin wing. Its over-all color is dark enough that it can be used with excellent results at the very beginning of the dry fly season. And it is still taking trout late in August, holding up its own in stiff competition with its brighter-colored cousins.

The Bivisible Royal Coachman, the Blue Quill, and the Multi-Colored Variant are other examples of early season dry flies that have great appeal to trout throughout the season.

There are no sharp lines of division between the dark, the medium, and the very light color cycles in flies. One shades into the other as the weeks of the trout season pass. Weather and water conditions can speed up or slow down the process.

But under average normal conditions, the dry fly angler can expect to begin using the lighter colored flies with the best results sometime between the middle and the end of May. The signal may be given by a hatch of natural insects. Or the angler may have to be alert for the appearance of only a few scattered insects of the lighter colors.

Then he will make sure, when he sets out for his favorite trout stream, that he has an ample supply of such patterns as the Honey Dun, the Pale Evening Dun, the Ginger Quill, and the Light Cahill.

I hasten to inject a note at this point that the flies which have been named are by no means all of the patterns that are effective at different periods of the trout season. They are cited as illustrations of a general color trend and because they are patterns that are familiar to all fly-fishermen.

You may substitute a pattern of your own preference for any one of these flies, and it will take trout if it follows the same color classification.

Earlier in this article, the point was made that the color cycle rule is very broad and general. That fact should be repeated, lest the inexperienced angler assume that it is the magic solution to the whole problem of choosing the right fly.

Sometimes it is easier to produce action by changing from one size of fly to another, rather than from one pattern or color to another. Sometimes it is not necessary for the angler to change the fly at all, but rather to fish the riffles instead of the pools, or vice versa.

And then there are the occasions when changing the pattern or the size of the fly or shifting from one type of water to another will not entice the trout into striking. These are the times when the dry fly angler must turn to some special types of flies—"attractors," as some fishermen call them.

The Multi-Colored Variant—with its gold tinsel body, dark badger tail, mixed black, dark ginger, and white hackle, but no wing—is one of these. Another is the Bivisible Royal Coachman, with its green peacock herl body with red floss center, its golden pheasant tippet tail, and its brown hackle with a few turns of white in front.

There also is the spider—which consists of nothing more than a gold tinsel body (or a gold-plated hook may be used) on which large hackles have been wrapped, fanning out to at least the diameter of a silver quarter, and often to that of a half dollar, and



CHANGING the color and pattern or the size of the fly may not always produce results. You may have to fish the riffles instead of pools, or vice versa, to get results.

tied in a variety of colors, including blue dun, barred rock, badger, ginger, brown, black, and even white.

With "attractors" such as these, to back up his knowledge of the evolution of color from dark to light during the trout season, the fisherman discovers that the problem of selecting the right fly is not so complicated after all.

Bass feed almost constantly, but early morning and evening hours are usually considered the best times for angling.

The Aquatic Weed Problem

By J. CURTIS SIMES

Regional Fishery Manager
Pennsylvania Fish Commission

Photos by the Author

Before jumping into the technicalities of the various procedures for ridding our favorite fishing site of aquatic weeds, let us first consider some of the basic relationships between the fish and the plants which normally share the same aquatic environment.

First off, we should remember that plants are the basic link in the food chain of all animal life; including fish as well as man himself. A few species of fish feed directly on the simplest forms of plant life—the algac. The majority, however, derive their sustenance indirectly from plants by consuming lower forms of animal life which have served as intermediaries in the conversion of plant carbohydrates to animal proteins, fats, and related nutrients. The protozoans, rotifers, crustaceans, and insects are important groups of lower animals which form intermediate links in the food chain of most fish. Where aquatic plants are abundant, here too is where we may expect to find these fish food organisms in vast concentrations. Weed beds are lush feeding grounds for the angler's quarry.

It should now be obvious that aquatic plants in many instances are highly beneficial. The objective in an aquatic weed control program therefore should not be the indiscriminate destruction of all plant growth in our streams, ponds, and lakes. When, then, is aquatic weed eradication warranted?

It is generally recognized by fishery scientists that all forms of higher plants are taboo in artificial ponds stocked with the "largemouthed bass-bluegill sunfish" combination. Ironically, the majority of these small, man-made impoundments are especially susceptible to the encroachment of aquatic weeds because of the presence of extensive shallow-water areas. Small bluegills seek out the weedy portions of the pond for both food and protection from predators, such as the bass. Provided with this protection they soon become over abundant due to their tremendous reproductive capacity. The natural food in the pond is consumed faster than the rate of replacement, growth of the fish stops or is considerably reduced, and the series of events leading to poor fishing is well underway. In weed-free ponds the bass can feed unrestrained on small bluegills; thereby keeping their numbers at a desirable level. Fewer fish mean more large fish and good fishing.

Weed problems can in large measure be prevented in small ponds by proper methods of construction. Shallow areas can be minimized by grading the banks

steeply out to deep water. This procedure is desirable for another reason. It significantly restricts the amount of available bluegill spawning habitat.

In lakes containing more natural fish populations and where other predatory fish species in addition to the largemouthed bass may be present, a moderate amount of plant growth is to be desired. Occasionally, even in natural lakes, aquatic plant growth will become so dense in the shallow, marginal waters as to create a serious obstacle to fishing and to boating. Under these circumstances partial control procedures are usually justified to clear those sections of the lake subject to the heaviest recreational use. Dock operators and cottage owners on some lakes use weed-saws, under-water mowers, and in some instances chemicals to maintain an open channel out to the deeper, weed-free waters.

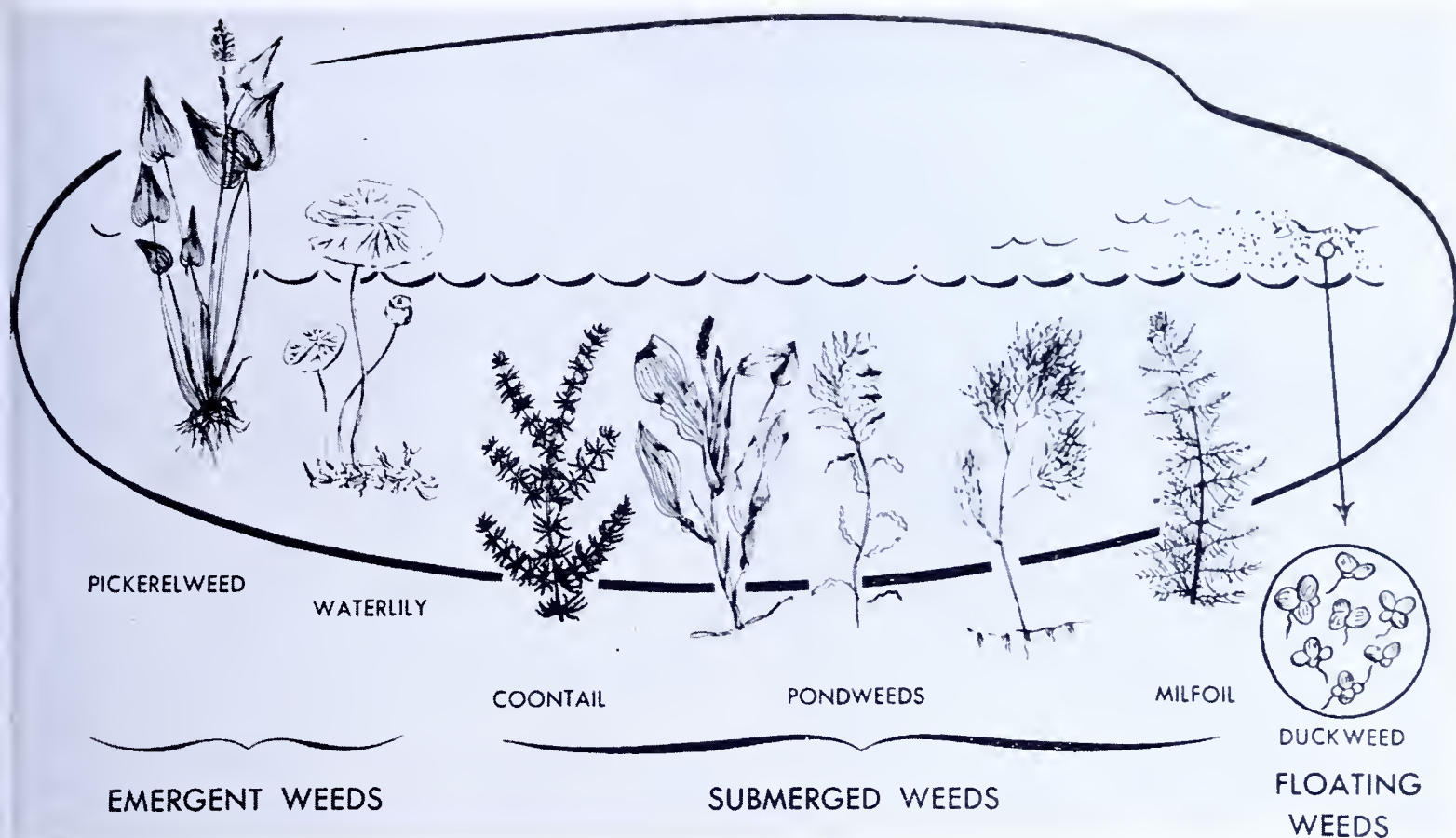
In relatively few instances does plant growth become so dense in flowing waters that control is necessary or desirable. Since a satisfactory chemical means has not yet been developed to destroy plants in creeks and rivers, the methods are restricted to hand grubbing or cutting with one of the mechanical devices available.

In outlining control procedures it is advisable to arbitrarily classify aquatic plants into four broad general groups according to their mode of growth. The groups are: emergent, floating, submersed, and filamentous algae or "pond-scum." In most cases a given control procedure applies equally well to all plant species within a given group; thereby eliminating the laborious and highly technical task of accurately identifying each individual species.

Control of Emergent Aquatic Plants

This group comprises those plants having the major portion of the leaf and stem structures extending above the surface of the water. In a new pond or lake they appear first at the water line. Unless they are controlled in the early stages, some plants in this group will spread to all shallow-water areas. Cattails are frequently found flourishing out to a depth of two feet or greater. Also numbered among the emergents are pickerel weed, water plantain, the rushes, and the sedges.

Nearly all plants included in this group can be controlled by persistent periodic cutting. Beginning



in the spring when new growth starts, they must be cut down to root-crown level once each month. Complete control can normally be achieved in one growing season. The scythe is the standard tool for this task. Where these plants have overrun a water area to the extent that manual control is impractical, it is necessary to resort to the use of chemicals. Mix one pint of 2,4-D Low Volatile Ester with one gallon of light fuel oil and apply in a garden type pressure sprayer to thoroughly wet all leaf and stem surfaces. Best results are obtained in early summer after leaves are fully developed but before flowering and fruiting occurs. Normally some regrowth of the plants will appear where skips in the spraying were made. A check of the area should be made one month after the initial application, and touch-up spraying should be carried out if new sprouts are evident.

Certain precautions must be carefully observed when using any of the chemical weed killers. Follow the directions on the label to the letter. Do not spray weed killers on windy days. Wind can carry the chemical mist long distances to inflict damage to valuable crops, shrubbery, and trees. The use of a relatively coarse spray; as opposed to a mist; will reduce this hazard. Equipment used for the application of hormone type herbicides should not be used later to spray garden crops or shrubbery with insecticides or fungicides. The residue of the weed killer may produce disastrous results on highly prized ornamentals.

Control of Floating Aquatic Plants

White water lily and spatterdock or cow lily constitute the most common members of this group in Pennsylvania waters. On occasion, however, these

EXAMPLES of type of pond weeds—emergent floating and submersed. There are numerous other species of water plants of each type to be found in Pennsylvania's waters. The treatment and procedures for control of the various species are the same as for others of the same type. Not illustrated because they range from extremely small size to microscopic are the algae. Sketches—courtesy of Chemical Insectide Corporation, Metuchen, N. J.

too are classed as emergent. But because of the vast amount of stored food in the extensive rootstalks it is not possible to control these plants by periodic cutting. Low Volatile Brush Killer, a commercial preparation containing 2,4-D and 2,4,5-T in combination has been used successfully on these plants. Mix one pint of the chemical with one gallon of light fuel oil. Follow the same spraying and precautionary procedures as outlined above for emergent aquatic plants.

Control of Submersed Aquatic Plants

Submersed weeds are those which grow almost entirely below the surface of the water. Some plant species included within this group will send up small floating leaves, as well as inconspicuous flowering and fruiting parts; but in all cases the major vegetative portion of the plant is below the surface. Coontail, water milfoil, naiad, Canadian waterweed (*Anacharis* sp.) and the common pondweeds (*Potamogeton* sp.) are some of the more familiar members of the group.

Growth of these submersed plants can frequently be prevented in small ponds by the proper application of fertilizers. Fertilization promotes a growth of minute plants and animals suspended in the water. When this growth becomes sufficiently dense, sunlight can no longer penetrate deep enough into the water for



PATCHES of yellow water lilies as shown here are not usually a problem. Such areas serve as feeding grounds for the angler's quarry. If allowed to spread, however, fishing can become difficult or in extreme cases, impossible.

submersed plants to become established. Incidentally, fertilization can also increase the harvest of fish from intensively fished ponds. Detailed information on fertilization procedures for ponds is available from local offices of the Agricultural Extension Service or the U. S. Soil Conservation Service.

Chemical control of submersed aquatic weeds is best achieved through the use of sodium arsenite, a heavy syrup-like liquid. The standard commercial preparation of this chemical contains four pounds of active ingredient per gallon. Using this standard preparation, one gallon is required for each million pounds of water to be treated.

To calculate the weight of water in a pond, the volume in cubic feet is first determined. This is accomplished by multiplying the average width by the average length by the average depth. All measurements are made in feet. Cubic foot volume is converted to pounds of water by multiplying by 62.5 (the approximate weight in pounds of one cubic foot of water). A pond with a surface area of one acre and an average depth of five feet would have a cubic foot volume of about 218,000 which would weigh approximately 13,600,000 pounds. For this sample pond, 13.6 gallons of sodium arsenite would be required and the cost would be about \$15.00.

The usual method of application involves the use of a power spray rig mounted on a boat. In order to get uniform coverage of the pond surface, it is advisable to dilute each gallon of the chemical with five to ten gallons of water in the spray tank. In ponds or lakes heavily infested with weed growth only one-half of the total area should be treated at one time. The balance may be treated after a period of two weeks. Decay of the dead plants may rob the water of its oxygen content and result in a fish kill unless this precaution is observed.

Special precautions must be rigidly adhered to in the handling of this hazardous chemical. Follow the label directions implicitly. Use a coarse spray to minimize wind drift. Prevent contact of spray material

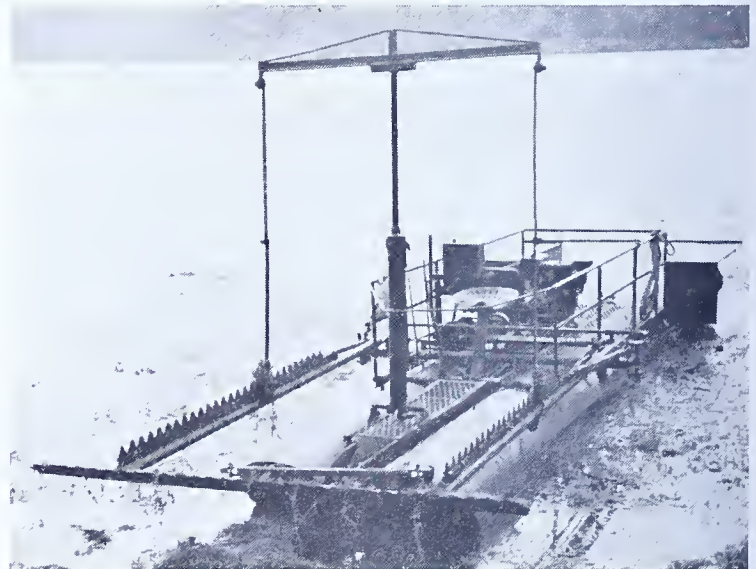
with eyes and skin. If unavoidable contact is made, immediately flush the affected areas thoroughly with water. Cattle and other animals should be excluded from the treated area until after the first heavy rain. Following treatment, all spraying equipment and chemical containers should be thoroughly washed. Any remaining chemical must be stored in a safe place away from children and animals. In other words, treat it as the dangerous, poisonous product it is.

Control of Filamentous Algae

Filamentous algae can be recognized by their thread-like structure and by the complete absence of leaves. Frequently they will form a greenish-brown mat which may blanket the entire pond surface; hence, the name, "pond-scum."

Where algae are found in combination with submersed weeds, both may be controlled with sodium arsenite as outlined in the preceding section. If algae alone are the problem to be combatted, copper sulphate, also known as bluestone or blue vitrol, offers the most practical means of treatment.

Here again, it is necessary to accurately compute the total weight of water in the pond. For each million pounds of water, one-half pound of the chemical will



(Above) **ONE OF SEVERAL** types of weed cutters—this an experimental model being developed by the Fish Management Section, Ohio Department of Natural Resources.

(Below) The Ohio weed cutter at work in a heavy growth of milfoil, one of the more common of the submersed type of water weeds.



be needed. If the water is known to be acid, as is the case in some of the bog type ponds in northern Pennsylvania, the application rate should be reduced to one-quarter pound of chemical per million pounds of water. These suggested rates merely establish a safe base from which to progress; for in ponds containing very hard water it will be found that a heavier application rate must be used to obtain the desired results. If the initial application is ineffective, a second treatment should be made two weeks later at a 50 per cent increased rate. In other words, start with the one-half pound rate; next three-quarters; then one; until the correct dosage for a given pond or lake has been established. The old adage, "If a little is good, more is better," cannot be too strongly condemned when applied to the use of copper sulphate. An overdose will surely decimate a pond fish population.

Application of copper sulphate is most easily made by placing the required quantity in a fine-mesh sack which is then towed about the pond with a boat. The crystalline or lump form of the chemical should be used if this method is employed. The more easily ob-

tained copper sulphate powder may be dissolved in water to form a spray which is then applied uniformly to the entire pond surface.

Copper sulphate poses no great hazard to humans or to farm animals; however, all ordinary precautions dictated by common sense should be observed. This material is highly corrosive to certain metals. Wooden or porcelainized containers should be used. A one-acre pond can normally be treated at a cost of one to two dollars.

* * *

Only since 1958 have Pennsylvania laws been interpreted to permit the use of aquatic weed control chemicals in private waters; and now, only upon receipt of a permit issued by the District Fish Warden. Caution must be exercised where private waters drain into public streams or lakes. Should a fish kill in public waters result from the inadvised use of chemicals in a private pond or lake, the applicator would be subject to prosecution under existing Pennsylvania law, even though he had obtained a permit for the application of chemicals.

ANGLER QUIZ

By Carsten Ahrens

Water Plants the Angler Should Know

A. Green Alga,
Pond Scum, or
Water Silk



Cattails

B. Cattails

C. Water Lily

D. Spatterdock
or Cowlily



Water Lily

E. Lotus

F. Sun Dew

G. Arrowhead

H. Pitcher Plant

I. Cardinal Flower

J. Pickerel Weed



Arrowhead

- 1. Yellow, globe-shaped flowers, heart-shaped leaves.
- 2. A plant with white blooms and arrow-shaped leaves that open well above the surface of the water.
- 3. A plant that catches insects with the aid of sticky hair-like projections on the leaves.
- 4. Another insectivorous plant that kills its prey by drowning it.
- 5. White flowers, famed for their beauty. Round leaves; the leaves and flowers float.
- 6. Tall, stiff plants with long, narrow leaves; flowering parts in a soft, plushy, tannish cylinder.
- 7. Ivory, chalice-like flower; stiff stems often hold flowers and leaves above the water. Seed is famous for its hard coat.
- 8. Flowers in blue spikes; leaves elongated yet heart-shaped.
- 9. Primitive plants, lacking leaves, roots, flowers, seeds.
- 10. Glowing, velvety, crimson blossoms that grow in water or in wet habitats.

ANSWERS

A-9; B-6; C-5; D-1; E-7; F-3; G-2; H-4; I-10; J-8.

Trout and the Fisherman

By EDWIN C. HOBSON

As to fishing and the fisherman and the long list of many fish the patient prowler of the laughing streams has a one and only love. Various kinds of fish can hold unbroken attention at intermittent times, but the real and honest affection of man is undoubtedly spent upon one fish who always plays havoc with fancy and the reality of commonplace things. Adolescently it is a first love. Now it is a last and the greatest piscatorial love—this fish familiarly known to countless men and boys as the brook trout.

To angle for the famous salmon is to enjoy the sport of kings and men of wealth. It is far beyond the diurnal means of the ordinary fisherman—a forbidden lure like the delectable appeal of a range of mountains in a far country.

Though a plebeian fish but with a conspicuous reputation the black bass is a hard fighting brute when enthusiastically played with light tackle and naturally it furnishes many a man the very excitement he innately craves.

The long, savage pickerel in the haunts of lily pads and warm water is a democratic creature who cares not where it flips an arrogant tail nor who sees it rush a frog off a lily leaf, and the fishing is a good passing of the day and place.

No matter what the fish and fishing are, always is there a return or a going back to the singing streams and brook trout. Man cannot personally explain this subtle lure nor does he quite understand the endless witchery of the sylvan haunts of his chosen fish. It may be the trout itself, the charms in an unending

series of singing waters, the season when spring fever is rampant and the soul aches with a nomadic relentlessness. Every fisherman possesses an individual idea, and it is private.

The continuous hours passed up and down a chosen stream may mean a creel of good fish or failure and emptiness. The fisherman of trout cares not, for a long and pleasant day alone upon a sun-lighted, shadow-thwarted, talking-and-singing water is like balm to his soul. There is a receiving of a serenity of body and spirit. Too, the men of strange races desire this but they have to journey to Mecca and Benares.

There are many trout in every fisherman's life—the six-inch fish of very young days and the bawling brook running through the farm, the patriarch of all fish of dreams when the open fire burns low and fancy steals into idle moments, and the fair-sized fish of reality and realization. They are the same and very identical, only they differ extremely in length and weight.

They are handsome and shapely fish. They look as though always arrayed in nuptial raiment. Wild, living in the most poetical of places, temperamental as genius or a chorus girl, the wily and festive brook trout is a living magnet no fisherman can abruptly repel nor physically resist. Open season plus the magic of spring means there are countless men wandering like gypsies in odd corners of the bucolic landscape.

Many a man will quietly smile at the poets and their wordy creations, then he goes a-fishing to a stream he intimately knows and deeply loves. Little he personally reckons he is really a poet who writes not yet he lives and plays the very spirit of a poetical adventure. In the tumults and dissonances of the city man may be a typical buccaneer among men in trade and business but out and away in the quiet, tree-haunted, odor-heavy open spaces he is the gentle fisherman. It seems that nature has a way of softening and tempering the spirit, gives one the buoyancy and strange feelings of youth, and makes one walk earth again arm in arm with the gods.

It is said beauty is able to draw one with a single hair, and the rustic lures of a stream must be identical. Of all recreations fishing is the most idyllic—if a man fishes for trout. It means a running stream with its labyrinthine weavings and inconstant turmoils, the enchantment and blendings of lights and shadows, of cataract colors and waterfall sounds, and of furtive fragrances lost on the passage of sighing forest winds. Too, it means a day abundantly freighted with poetry, simple adventures and lastly the communion with one's

SHADOWS now incline to deepen into a purpling dusk.





IN THE splendors of a natural environment.

own soul. The frets of a civic unrest flee before the ever-changing panorama of scenery, and the subtle alchemy of the spring season makes one young again. Though vague in appearance and very intangible, the lure is all-compelling.

Prowling here and wandering there in the splendors of a natural environment where nature is stubbornly making her last stand before the attacks of the flesh-pots and man, and fishing for such a whimsical and lovely creature as the brook trout, one can be pardoned for inclining to be a philosopher. He wanders erratically about like a lone wolf; he joyously shakes off the bonds of conventionality and contentedly plays as he would have lived thousands of years ago. Lost in the heave and dipping of the landscape, alone in a solitude of primeval sounds and primitive things, out where the senses are free as the flying birds, he walks with the gods of old and plays with unbothered thoughts.

To fish and loaf and day-dream, to have a contemplative pipe and partake of food cooked upon a little fire in the open, to enjoy the rising of a painted fish and the mystery of a maddening mood of the year—alone, friendly and in communication with one's own soul, no man can help it if he philosophizes, even rhapsodizes, and suddenly is aware of self and half ashamed in the very act. Quite true, it takes the naked sting out of life and causes one to forget for a day such things as the urban world, the worries of trade and inhumanities of men.

To have alone with self and thoughts the dawn and high noon and day's end is to mentally possess the wealth of the world.

Now is the morning restless with bird songs, cool from the dews and night airs, fragrant with the smells of earth and bracken and dogwood, and stirred slightly with a soft leafy sighing of maple and oak and hundreds of pines. With the uncertainties of fish plus the weather and wind and place and mood of man, the day begins as the fisherman sends an interrogative fly toward some frolicsome riffle spattered with foam bells. The values of time slip away; the world of buildings and sounds and men is forgotten for one is again fishing.

As the sun mounts higher into the blue pool of the sky and the pagan songs of the gods become subdued, the warmth and peace of time and place now enter into the body of the fisherman. Eventually one discovers it is not all of fishing to fish. There are shadows inviting a short rest between the pools; there is the sunlight playing upon sliding waters; there is the green environment that changes with every curving of the stream. Too, the fish seek the coolness of the shadowy places, and with a display of piscatorial temperament refuse the most delicate of lures. Every clump of bracken seems a bed for dryads and fauns and, perhaps, man too. And the tranced quietude of the time of high noon stills the voices of bird and reptile and insect. Life is in a sort of swoon for a while.



SPRINGTIME and a singing trout stream.

When the sun swings toward the blue hills in the west and fish are beginning to again rise to a feeding, the many casts mean a tired arm and a more tired spirit but a contented and happy man. The fisherman has quietly and craftily matched strategy with the wiles of a wild fish. Now a pipe is lighted to smoke to success and failure, too. And it is true the biggest fish always get away!

Shadows now incline to deepen into a purpling dusk. Hidden in leafy recesses a thrush melodiously flutes the end of day and the close of fishing. A whippoorwill opens his torrential serenade, and the robins are mellowly singing down the sun. With a last color lingering pallidly on the rim of the world the fisherman slowly wends a homeward way. Tired but happy, there is the thinking of another day upon the stream.

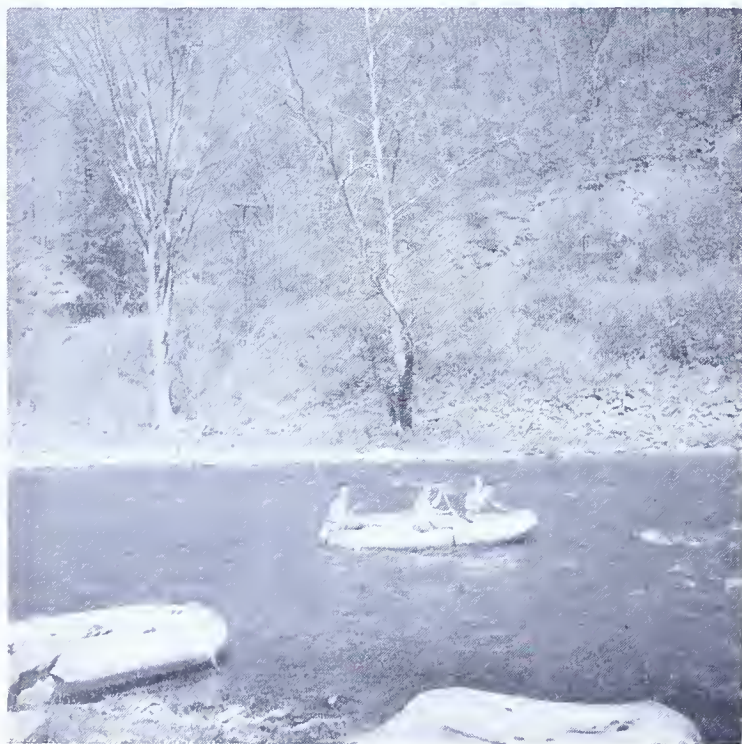
You and I and the lucky fisherman going down the road, we know what is the strong friendship of the stream, the trout and man.

"White Water"

By **BILL WALSH**

"White water!"

Now, there's a combination of words that conjures up visions of red-blooded, he-man adventure anywhere on the globe. One gets a mental picture of intrepid boatmen "shooting the rapids," in canoe or kayak—possibly even piling up on the rocks in a tangle of wrecked craft, capsized gear, and flailing arms and legs. One envisions roller-coaster chutes of foaming water cascading over immovable boulders and spurt-ing through narrow canyon walls with the roar of a wounded giant.



SOME "SCOUTS" paddle by in one of the big yellow "doughnuts" which tame the waters of Pine Creek.

And one would doubtless conclude—after thoughtful contemplation—that, surely, white water is one area of rugged outdoor activity where "the men are separated from the boys." I always thought so, anyway.

It was, therefore, a pleasant surprise to learn that Pennsylvania has a "white water" stream that offers a peck of thrills and floating adventure (as well as some outstanding trout fishing) to man and boy alike. Where, in fact, more boys than men have "shot the chutes" and emerged safely on the other side. Where the adventurers are safer in their craft than in the family car on the way to the supermarket.

The stream is picturesque Pine Creek—a magnificent stretch of trout and bass fishing water that flows

through Pine Creek Gorge—better known to tourists who have seen it only from the rim as "Pennsylvania's Grand Canyon" in Tioga County.

Learning that a stretch of water is floatable and "safe" is one thing. Putting it to the personal experience test is another. To accomplish the latter, a couple of twelve-year-olds twisted their fathers' arms on behalf of a float trip until the reluctant parents could no longer endure the pain and agreed to go along. The "plotters" were Bobby Stevenson and Jeff Walsh. The "victims" were Wellsboro's Lou Stevenson and the writer of this article. As we explained it to our wives, we wuz framed.

Now, if you would hike the bank of Pine Creek from Ansonia to Tiadaghton note the forlorn wreckage of canoes and other rigid craft at various points along the way—and you would begin to have your doubts about the wisdom of such a trip. About the time you made up your mind that such an excursion was not for you, a group of teen-age Boy Scouts (or Girl Scouts) might round the bend and go floating by—having the time of their lives. You would then observe that they were floating in rubber life rafts (the war surplus survival kind)—and herein lies the secret.

While canoes and other inflexible craft occasionally run into trouble on the rocks, the survival rafts—look-



SOME OLDER "SCOUTS"—including Dr. A. R. Grove and Leroy F. Manning—find floating a relaxing experience.

ing for all the world like big yellow doughnuts—bounce off boulder and bank and go merrily down the stream, like a fisherman's bobber that got off the line.

Perhaps they go over the rapids sideways or backwards as often as front-end-to—their occupants laughing like kids in an amusement park—but they DO go over right side up and still floating. Of course, some canoeists make it, too. But their chances of a dunking and the loss of their craft are high.

Ed McCarthy, of Wellsboro, latched onto the idea of using rubber life rafts for floating Pine Creek some years ago and has since outfitted many a "Canyon Cruise"—specializing in trips for Boy and Girl Scouts. Through this activity, Ed has acquired (and earned) the title "King of the Canyon." Our trip with the boys was similar to most Canyon Cruises.

Lou, a veteran of several dozen "Big Pine" float trips, has his own rubber life raft. Jeff and I secured one from Ed. First thing we had to learn was how to store the gear we would carry along. Unlike the procedure with rigid craft, the bottom of the boat is not the proper place to carry freight in a rubber raft.

First of all, the weight of gear against the thin bottom tends to scrape holes in the bottom. Second, because you ship water in the rougher rapids, you are often in the course of a float led to believe there's as much water inside the "doughnut" as there is outside in the stream. And who wants soggy pancake flour?

In the proper manner, gear is lashed to a plywood board which sits atop and rests on the sides of the inflated ring. All gear is securely tied inside waterproof duffel bags, of course. Canoe paddles are used for steering and the small amount of paddling in the slow water of the eddies—as well as to maneuver a raft into fishing position.

A patching kit and a pump are as much a part of the standard equipment for a rubber raft as they once were for the early-day auto. Should a raft spring a leak, one paddles to shore, repairs it, pumps up the craft to former size, and continues on his way. A leak in the "ring" cannot capsize the craft because of its compartmented construction. On spring and fall floats, waterproof footgear is the answer to water inside the "doughnut." In summer, follow the example of carefree youngsters and go barefoot.

The bottom of the raft hugs the surface of the water as though it were glued to it. And because of its flexibility, the raft follows the contours of the rapids and the slides like a roller coaster clinging to the tracks of an up and down amusement ride.

Probably a float's biggest thrills occur when the bow of the raft disappears over a waterfall of several feet in height. It's somewhere below you, out of sight, as you stare at the boiling water ahead. You seem to sit on the crest of the falls—hanging momentarily in space—about to be plunged into the creek. But, un-

failingly, the bow follows the contour of the water, reappears in front of you, and you are again on your way with an entire raft beneath you. It's a breathtaking moment that tickles the pit of the stomach—and seems, no doubt, to last longer than it actually does. Heartily recommended if you're bored with it all. Our kids just laughed at the dozen or so places in the flow of Pine Creek where you get this kind of white water ride.

A standard Canyon Cruise includes at least one overnight stop. This occurs at what is known as Stone Lodge. "Stone," as the cruisers have nicknamed it, is a house-sized building constructed near the turn of the century by the then-head-of-state of Pennsylvania, Governor William A. Stone.

A neighboring building of similar construction is also used by Canyon cruisers. Our father-son team stayed at Stone.



THIS RAFT is rigged properly for floating both men and gear—the latter lashed to a plywood deckboard which keeps equipment high and dry when running the rapids.

As the boys lit a fire in the ancient fireplace, Lou and the writer examined some of the photographs on the mantelpiece—taken in the region many years ago by some of the parties who enjoyed its beauty then. It was interesting to note that it seems much the same now, with the exception of the styling of the clothing and the facial adornments of mustache and beard worn by those early-day fishermen. One of the photographs was taken at the crest of one of the many waterfalls on Four Mile Creek, a tributary of the "Big Pine" that enters into the larger stream at Stone Lodge. A photograph in the same place today could hardly be told from that of half a century ago.

Most of Pine Creek Gorge in its prime floating stretches (Ansonia to Blackwell) is not readily accessible by road. Even where the road draws near to the canyon rim, a hazardous and difficult drop of about a thousand feet confronts the angler who would de-

scend on foot. Hence most of the anglers are those who have floated in. This imparts to the area a wilderness flavor not often found on today's trout streams.

At Leonard Harrison State Park—one of the excellent “lookout” points visited by hundreds of thousands of tourists each year—a wilderness path is cut out of the woods in zigzag fashion to the bottom of the gorge. Yet not too many tourists use it to get to the actual bottom—turning around half-way down and laboring upward again to the starting point. We tried it once and found out why—it's hard work! Consequently the floating fishermen have much of the prime water to themselves. Which is, perhaps, as it should be. Since even in the midst of civilization it is hoped that a few places will be left only for those who take the time and trouble to get to them.

The Pine Creek Gorge winds for a length of 50 miles through some 300,000 acres of heavily forested



THESE FLOATERS have rigged a plastic sail to help the current get them through the eddies.

lands—mostly state-owned. It is interlaced with many valleys and tumbling mountain streams where “native” brookies still await the angler who will walk their brushy banks.

In Pine Creek, the fishing is fabulous for those who know how to fish. Recent studies on a scientific basis have shown to be true to long-held suspicion that when it comes to fishing (especially for trout) a small percentage of studious anglers catch a large percentage of the fish.

On Pine Creek, such anglers in the upper echelon have a field day when conditions are correct. The surface of Stone Lodge Pool is dimpled by the feeding activities of scores of trout in its city-block-long area when the various hatches are coming off. It's a paradise for the dry fly-fisherman who likes to locate a “working” fish and cast to him. But in the summer it required plenty of finesse and leader tippets in the delicate sizes to outsmart the trout.

This writer—having done most of his fishing for trout in northwestern Pennsylvania—has seldom seriously fished the dry fly because of the absence of suitable water for the pastime. But Lou Stevenson, who appreciates the good fortune of living “next door” to Pine, has even been known to be late for supper when the hatches are on. He gave us some classic lessons in fish catching techniques via the dry fly route. In time we even took a couple ourself that way. But Lou supplied the breakfast trout and without him there probably wouldn't have been any.

The boys fished and caught a variety of rough stream fish. Their days of serious trout fishing are still ahead of them. They had an occasional swim. And they paddled the life rafts around the pool—having fun in general. We let them have their lark in their own way.

About the only way we spoiled it (they had to earn their keep somehow) was when we gave them the daily task of cleaning up the pots and pans, using that “wilderness detergent” known as a handful of sand, plenty of water, and a generous dash of inspired elbow grease.

We have never felt that a father does his son much of a favor by taking him fishing and then continually burdening the youngster with sage fishing advice at every bend in the stream or a barrage of “Don't do this,” and “Don't do that.” Level with the youngsters BEFORE the outdoor trip. Tell them what you expect from them as well as what they may expect from you if you don't get it. It works! And the out of doors is an ideal setting for improvement of father-son relations—often overlooked in today's society in which competition for leisure time is so keen that few families spend much time together any more.

Float trips usually “take out” at Tiadaughton—an old lumbering center in the hey-day timbering period. Or they go on to Blackwell. Roads touch both points and floaters arrange to have autos meet them for the return to base camp near Wellsboro. The narrow dirt road that dips into the Gorge at Tiadaughton is an adventure in itself and is not for autos with faulty brakes or drivers with faint hearts.

The Pine Creek Gorge is not only famous for its fish. It harbors plenty of deer, more than the usual amount of turkeys, and some black bear. Grouse, too, of course. One is apt to catch many a glimpse of wildlife on a float trip down the Pine—along the bank and occasionally swimming the creek to see what's on the other side. The Gorge was formed in the Ice Age of some 25,000 years ago.

While good fishing is available above the Canyon portion of Pine Creek, and floating can be accomplished there, too, under proper water conditions, one actually enters the gateway to the Canyon at the point where the waters of Marsh Creek join Pine—slightly east of Ansonia. It is there that the Canyon walls

thrust up steep and towering above the tiny rafts which resemble toys on the water to those who view them from the rim above.

On a cruise that is guided and outfitted by McCarthy, all the cruiser needs to take is his fishing equipment, a change of clothing, and a sleeping bag or bedroll. The scenic beauty of the trip makes a camera desirable, too. While it is not the purpose of this article to promote the commercial aspect of a guided float trip, in all fairness to McCarthy it can be stated that he is the only outfitter and that his love of the Canyon country and his desire to have as many young Americans enjoy its wilderness beauty as possible is reflected in the extremely low rate for Boy and Girl Scout groups.

Details can be secured from Ed McCarthy, R. D. 2, Wellsboro, Pa.

Eager to keep the wilderness flavor of the area intact and free from "hot dog stand" exploitation, Wellsboro residents and civic groups—as well as many folks from all over the nation who have made the float—are currently urging that steps be taken to set the area aside as a wilderness sanctuary protected from commercial development.

Their sentiments are probably best expressed in the words of Larry Stotz, a District Ranger on the Allegheny National Forest, who after floating Pine Creek, wrote as follows in his widely distributed columns entitled "Your Forest Ranger":

"In a world of mass production, there is still only one Taj Mahal, and for three centuries men from all over the world have come to gaze in awe upon this architectural jewel. There is only one Mount Everest, one Grand Canyon of the Colorado, and only one Grand Canyon of Pennsylvania.

"We need to preserve these quiet places of running water, forest, and cliff just as much as we need to preserve the Taj Mahal, a famous cathedral, or a painting by one of the great masters.



FOUR MILE CREEK—a jewel on the mountainside—enters Pine Creek at Stone Lodge. It yields native brookies and a scene of sylvan beauty at each bend to the patient angler. A delightful "side trip" to any Canyon Cruise.

"When you stand upon the rim of Pennsylvania's Grand Canyon and look down into the gorge, you are looking at one of Nature's masterpieces. Sun and shadow, the change of the seasons, and the clear rippling stream that flows over the canyon bottom, bring to life Nature's massive canvas. The gorge that holds you fascinated was carved by running water—the relentless tool that can wear away even the hardest rock. As you leave to go back to the crowded highways and cities you realize how brief is man's life span upon this earth, and you think of Pine Creek—the little stream that has been gnawing through the plateau's great bulk for eons of time to create Pennsylvania's Grand Canyon."

It is our personal hope, too, that the cliffs of Pine Creek Gorge will continue to echo to the cries of the crow and osprey, the gobble of the wild turkey and the drumming of the grouse, the bark of a squirrel and—the happy voices of "Kids in the Canyon."

The Thirteenth Proved To Be Good Luck



Leroy Simons, an avid ice fisherman who hails from Hunlocks Creek, Luzerne County, proudly displays a whopping big walleye which he caught through the ice while jigging for perch on Lake Winoka, Wyoming County. The catch was made on March 13, and now with the warm weather opening up the ice-bound highways we get this story.

The walleye measured 31 inches and weighed 12 pounds and one ounce. Simons could not pull this fish through the hole in the ice and had to be aided by Fred Dodson who enlarged the hole in order that this monster could be landed.

Education Moves Ahead



THE FISH COMMISSION exhibit of live fish at the 1960 Harrisburg Sportsmen's Show. The species on display included brook, brown, rainbow, albino brook, tiger and lake trout, walleye, smallmouthed and largemouthed bass, northern pike, muskellunge, chain pickerel, hellbenders, bluegills, carp, suckers, eels, yellow perch and catfish. The face panels of the exhibit are of V-groove mahogany plywood in natural finish. The exhibit was composed of two separate display units each of eight aquaria extending for 12 feet. Attending the exhibit through the week and the information booth to the left were wardens Harvey Neff, Lehigh County (left); Tony Lech, Schuylkill County (right); Richard Owens, Huntingdon and Mifflin Counties; Thomas Karper, Cumberland and Adams Counties; Barney Barnhart, Dauphin and Lebanon Counties, and W. W. Britton, Chief Law Enforcement Officer.

Another great stride was made in the information and education program of the Pennsylvania Fish Commission with the completion this spring of additional facilities for the display of live fish at sportsmen's shows, county fairs and similar events.

The initial appearance of the newest exhibit—actually two display units—was made at the Harrisburg Sportsmen's Show in late March. At the close of the show, one unit of eight aquaria was assigned to the Commission's northwest regional office at Conneautville. The other unit will remain for use in the southeast and south central regions through the District offices at Hellam and Huntingdon.

Other units of earlier design remain available for like use in the southwest region of the state through the office at Somerset; in the north central through the Lock Haven regional office; and in the northeast through the Honesdale office.

The two new displays were designed by C. Robert Glover of the Conservation Education Division. The aquaria racks and face panels were fabricated on contract by commercial firms. The plumbing and electrical systems were installed by Commission craftsmen at the Pleasant Gap station of the Bellefonte hatchery system. The display was assembled for the Harrisburg show by personnel of the Huntsdale hatchery under direction of Barney Barnhart, Dauphin-Lebanon district warden.

Each of the new displays consists of eight 29-gallon plate glass aquaria of stainless steel frames and slate bases, four of which are tied into a cooled-aerated-filtered circulating water system for the display of trout. The water is cooled in a soft drink cooler and pumped through a filter to the aquaria by a one-fourth horsepower centrifugal pump. It is returned to the cooler-reservoir via hosing from standpipes in each aquarium. The system enables maintaining water temperature in the aquaria in the mid-50's, a dissolved oxygen count of 8.2 and crystal clear water.

Warm water fish are displayed in the other four aquaria of each exhibit, the waters of which are aerated by a small piston-type air pump, through air stones and individual filters in each aquarium.

Arrangements for the use of the displays may be made with the respective regional offices of the Commission. However, because of the labor and time involved in placement and assembling, their use will be limited to showings of no less than four days. Because of their total weight and type of construction, the displays can only be placed on level and solid flooring inside a building or under full tenting.

Other exhibit materials and equipment recently completed or refurbished and similarly available include stream improvement panels, admatic machines with titled slides and publications panels.

Kettle Creek, River of Legend

By **ALBERT G. SHIMMEL**

Illustrations by the author

The sun crept down the mountain until it reached the valley floor. The winter was gone except for tattered remnants of snow that clung to hiding places in the dark hollows. A crow coasted down the mountain but flared at the sight of a birch canoe secured to a tree with a basswood cord. His three alarm notes re-echoed across the valley.

The brave that squatted on a panther skin near the canoe felt the warmth of the sun on his naked chest. He watched the efforts of his son to send his toy spear through the snow hoop that he tossed into the air with his left hand. This small replica of his father wore, in addition to his loin cloth and moccasins, a white weasel skin suspended from a cord about his neck. Its purpose was to protect him from evil spirits and give him the fierce courage of the tiny predator.

The mother, her soft deerskin dress showing neatly stitched decorations of colored porcupine quills, loaded the canoe with bundles of skins, bags of dry meat, bladders of bear oil and birch bark boxes of maple sugar. Back in the grove beside the spring the framework of their home had been stripped of its bark covering and would stand deserted until the melting snows of the next winter would send them again to the sugar grove. The corn-planting moon would soon come and they must have the rich land along the big river to the south ready to receive the precious seed she had so carefully hoarded since the last harvest. Pride and pleasure mingled in her face as she placed her treasured copper kettle on top of the last food package and stood silent beside the loaded canoe.

A flock of geese followed the valley in their flight north. The brave stood erect as the sound of their clanging came faintly above the sounds of the river. It had been a good winter, his son and squaw were fat from the good venison and marrow bones. The yards had been full of deer and the elk had not failed. Truly the gods had given them good hunting. Now that the time of sugar making was past, they must make haste to the summer camp on the rich flats of the lower river, the Susquehanna. He must make haste but he must not forget to stop at the place of the rock god. He must build a small fire and burn a bit of tobacco that the corn would grow well and their nets be full of fish.

An osprey, riding the spring thermals high above the tallest hemlock spire, saw the canoe run down the rapids and dart into the quiet waters behind the big Gray Rock. Two of the three humans in the canoe sat motionless, while the third climbed to the very top of the rock. Just as the spring sun marked the mid-day

hour, a ribbon of smoke rose toward the sky. The slow rhythm of a tom-tom mingled with the murmur of the river.

The Susquehanna, running bank full from the melting snow had been further swelled by a spring storm on its headwaters. Driftwood that had lain untouched in the barriers dotted the water. A green pine, that had been growing on an overhang, toppled when the water had undercut and softened the soil. As it floated along, it twisted and turned at the whim of the current.

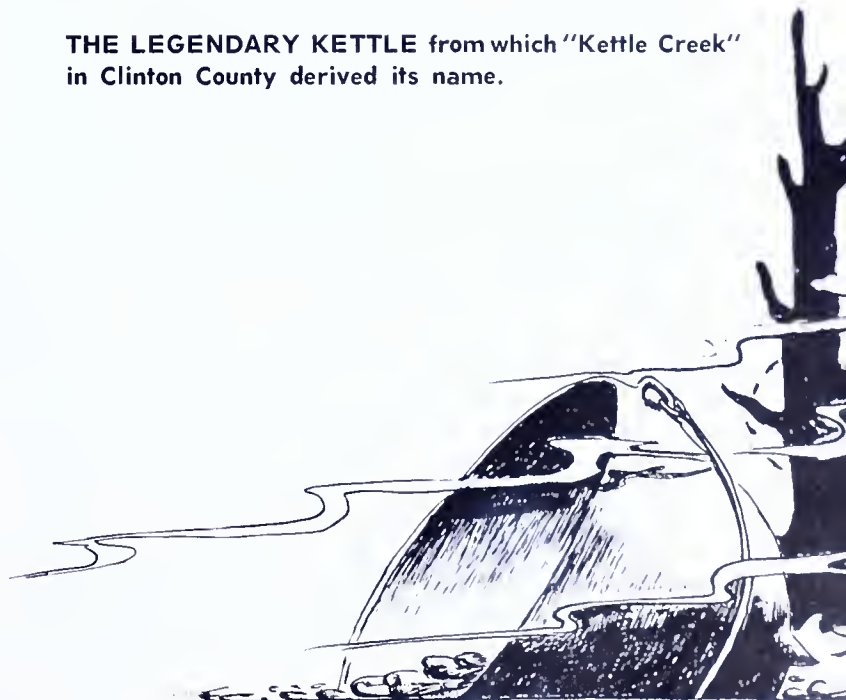
Fate swept the pine against the bank and lodged it squarely in the path of the canoe, just as it reached the place where the northern river entered the larger stream. Both paddles dug deep to avoid a collision. The heavily laden canoe responded with a sidewise lurch that saved the canoe at the expense of a sugar box and the copper trade kettle.

A history of Centre and Clinton Counties published in 1883 makes the following statement:

"The origin of the name Kettle Creek is legendary. A party of Indians coming out of the creek in a birch-bark canoe upset their canoe and tipped out their kettle and implements. Hence the name.

"Simeon Pfouts was the first man to settle upon the waters of Kettle Creek. In the year 1813 he made his way up the West Branch as far as the mouth of Kettle Creek, which is said to have derived its name from the finding of a kettle in it near its confluence with the Susquehanna, by some one of the white settlers residing within the vicinity of its mouth.

THE LEGENDARY KETTLE from which "Kettle Creek" in Clinton County derived its name.





THE SMOKE signal from atop Gray Rock.

"Near the lower end of the township (Leidy) are many rocks of large size in the creek, many of them well known to raftsmen by their names. Many have ducked their heads underwater through the powder and drill, but the most formidable and dangerous rock in the stream is called the 'GRAY ROCK.' Nature in some of its wild freaks of fancy loosened a huge rock from its moorings away on the precipitous slope of a lofty mountain; it tumbled with lightning velocity down the mountainside into the creek at a short turn where the stream is very narrow. Here it has stood for ages, defying alike the action of the elements, the hand of man, and the tooth of time.

"For nearly half a century (This was written in 1847.) the pilots of Kettle Creek have kept up sort of a running fight with this monster; broken platforms of boards and detached sticks of timber floating on the surface would give evidence of a brush with Old Gray which would remain firm and immovable, awaiting another victim."

The trout fishing, both in the main stream and in the branches, was something that present day anglers would find hard to visualize. G. W. Botsford, writing of the early half of the eighteen hundreds, says, "Hammersley's Fork would probably excel any other creek in the state for trout. The average number taken annually during the past fifteen years is about sixteen thousand. I have often left home and traveled some distance up stream, and caught between two and three hundred trout, and returned the same evening. At present trout are not so plenty as in former times, but more fishing is being done by people from various parts of the country."

Many a trout fisherman, working the Brooks Riffle area, during the Shad Fly hatch of early June, pauses to watch a few deer come down to drink. The dark pool at the Ox-Bow Bend where the large browns come to the surface at evening is well known. Many an angler wonders how the quiet waters came by the name Cannonading Hole. The shallows both above and below this spot are still good deer crossings.

In late summer of 1825, Peter Walters and Isaac and Duke Summerson started out late one evening armed with brilliant pitch pine torches and flint lock rifles. They made their way to the southeastern side of the Ox-Bow Bend where emerging from the timber they reportedly saw the eyes of from two to three hundred deer, reflecting the light of the torches. They seemed to fill the stream from bank to bank as far as the light of the torches could be seen. It seems that they fired and reloaded as rapidly as possible, but with more speed and enthusiasm than skill. This kept up for over a quarter of an hour until the dogs from the neighboring clearings, hearing the firing, came rushing to share the sport. There was a great confusion of animal sounds until the deer fled away and the stillness of night once more settled upon the wilderness. In the riffle below they found two deer, small profit from such an expenditure of powder and lead. Youth and enthusiasm account for their lack of skill. The place has been known ever since as the Cannonading Hole.

The legend of Ole Borneman Bull and his tragic experiment in Socialism is commemorated by the well known Ole Bull State Park and recreation grounds. This story is well known and will not be repeated here.

From 1824 to 1873, Jacob Hammersley roamed the land of the kettle. He was a strong and vigorous man, skilled in the ways of the wilderness and leaving his name to the town and post office at Hammersley's Fork. His fame as a hunter was great even in the days of great hunters. He killed five elk in one day at a spot a short distance up Cross Fork. He hunted wolves and panthers for bounty and bear, deer, and elk for market. Much of the meat was carried by canoe down to the settlements at Big Island, near the site of Lock Haven, or sold to the lumber camps along Kettle Creek. The panther scalp brought a bounty of fifteen dollars. An adult wolf was worth twelve dollars bounty while a young wolf brought eight dollars. When wages in the lumber woods or at the trades averaged only a dollar for from ten to twelve hours work, is it any wonder that many men chose the adventurous life of a hunter rather than the more settled existence as a farmer or artisan?

The modern angler fishing along the wooded banks of Kettle Creek is impressed with the wild beauty of the scenery. Imagine if you can what this land was like when the original timber still stood.

"Some years twenty, and one year twenty-five, rafts

of square timber came down along with seven million feet of logs."

When we consider that a raft of pine was composed of one hundred and twenty spars, thirty-three inches at the base, ninety feet long, and at least eighteen inches square at the top, we find it hard to imagine forests that produced timbers of that size and quantity. Small wonder that portions of this area were known as the Black Forest, from the park pines and the perpetual gloom that kept the sunlight from reaching the traveler who chanced to journey through this area.

When the night breeze rises after sunset, the angler making his way up from the dark pool fancies he hears again the melancholy wailing of Ole's violin. Or when

the lonely winds sweep down from the mountains bringing the winter blizzards with them, natives of the valleys imagine that they hear again the cry of the ghost panthers, the bugle of the elk or the distant mournful call of the hunting wolf packs of yesteryear. On a warm spring morning when the first cumulus clouds of the season pile up behind Dyke's Peak, if your ear is turned to the past you can hear again the rhythm of the tom-tom and catch a faint chant coming from Gray Rock, and when the storm is passed and the streamers of mist veil the water, you may see an ancient birch canoe slip by and catch a glimpse of a shining brass kettle lying among the packs.

Truly Kettle Creek is a river of legend.

Illegal Fishing Comes High!

Quoting Walter Burkhart, Philadelphia-Montgomery Counties district warden—"We don't like to see people fishing illegally," and his deputy, Ben Hecker—"We don't want wholesale prosecutions."

Both circumstances were rampant for a couple days between stocking and opening day of the 1960 trout season on the Wissahickon and Pennypack Creeks in suburban Philadelphia. Rampant, that is, until Burkhart and his deputies restored order.

In the process, 21 fish law violators ranging in ages between 12 and 21 years were apprehended. The charges racked up by one pair whose catch and equipment were taken over by Burkhart (right): 1. fishing during a closed season—\$5 each; 2. fishing without a license—\$25 each; 3. twenty-one illegal fish in possession—\$10 each fish. "Pocketbook education" total—\$270, plus costs, plus confiscation of equipment.

Photo Courtesy—Phila. Daily News



"How to Fish Like an Expert"

The retreat of winter and the burgeoning of spring bring out in many people a sincere and impelling desire to go fishing. Youngsters who may fish for the first time this year and inexperienced anglers should be interested in "How to Fish Like an Expert," just published by the U. S. Rubber Company.

Authored by Chuck Schilling, angling editor of

Florida Wildlife, the booklet stresses sports fishing, sportsmanship, conservation, anti-litterbugging, and wilderness values. One or more copies may be obtained free from Fishing Books, U. S. Rubber Company, Rockefeller Center, 1230 Avenue of Americas, New York 20, N. Y., the Wildlife Management Institute reports.



Notes FROM THE STREAMS

What a "Hull-ov-a" Gull, Was He!

Noted while checking ice fishermen on Lake Wallenpaupack with two game protectors was one of the greatest of all fishermen "making a catch." A single man was off-shore on the ice vigorously waving his arms which to us at a distance looked as though he was beckoning for help. It developed he wasn't. Instead, he was trying to scare off a large sea gull that was taking his yellow perch that had been left near the tip-ups on which they were caught. Despite the harassed fisherman's efforts, the smart old gull just winged to an unguarded catch at another tip-up and continued the repast. By the time he collected himself, the fisherman allowed he had fished about a half a day for that gull.

—Harland Reynolds, Warden, Wayne County

Pressure on Shawnee

During the last four days of March more than 1,500 fishermen were counted while fishing for suckers in Shawnee Lake in Bedford County. Along the section of the lake where the suckers were "running" it was an elbow to elbow affair. In total, many hundreds of suckers and an occasional catfish were taken.

—William McInay, Warden, Bedford County

To the Brave—Go the Spoils

The sucker fishing has been very good along the Conoquenessing Creek in Butler and Beaver Counties this spring. There have not been too many fishermen, but those who were brave enough to stand the cold weather were well rewarded.

—Clifton Iman, Warden, Butler and Beaver Counties

Spear Fishing Goes into High!

The new regulation which now allows spear fishing for suckers in certain waters and for carp has been enthusiastically received by many fishermen in and around Tionesta. I checked carp that weighed between 25 and 40 pounds and suckers that ranged in weight from 3 to 8 pounds. The spear fishing fraternity here in one month took an estimated 500 pounds of carp and 300 pounds of suckers.

—Norman Blum, Warden, Forest and Clarion Counties

To Hardy Fishermen—It's No Problem!

Despite generally frozen-over waters and deep snow, some spots on French Creek in Crawford County remain open. Hardy fishermen who ventured forth have accounted for excellent walleye catches in these open areas.

—Raymond Hoover, Warden, Crawford County

"Ostrich Fishing!"

Since the close of walleye season and the late freeze-up, numerous Union City fishermen have engaged in a different kind of fishing with good results—spearing suckers through the

ice. They called it "ostrich fishing," and it's done by cutting a hole in the ice after which the fisherman drapes a blanket or coat over his head and the hole. The draping shuts out the light which enables the fisherman to more easily see and spear his quarry as it swims within reach.

—Norman Ely, Warden, Erie County

A Boon to Pike and "Muskies"

The reinstituted closed season on pike and muskellunge this year seems to have met with favor among ice fishermen in Warren County. In one cove along the Allegheny hundreds of pike 6 to 10 inches in length can readily be seen through holes in the ice. This augurs well for future fishing and the sportsmen are pleased that the "youngsters" will enjoy some protection.

—Kenneth Corey, Warden, Warren County

Nature Plays Many Tricks!

While patrolling the East Branch of Fishing Creek about four (4) miles from Central, I noticed what looked like a cross between a White Birch and a "Whitetail." It was the most unusual deer I had ever seen. Only the back, the head, a small portion of the neck, and its lower legs were brown! The rest of the animal was snow white.

—J. F. Yoder, Warden, Luzerne and East Sullivan Counties

Seeing Really Is Believing

While "truck-followers" are not unusual in the open season, the number of sportsmen assisting in pre-season stockings here in Luzerne County was almost beyond belief. Men from all walks of life dropped everything to be on hand and lend assistance. Radio and television stations brought the stocking activities back to late evening viewers who were unable to witness the "live performance." Cameramen from channels 16, 22 and 28 journeyed many miles to bring trout stocking directly to the living rooms!

—J. F. Yoder, Warden, Luzerne and East Sullivan Counties

Where There's a Will—There's a Way

The fine cooperation of two sportsmen's clubs is noteworthy indeed. Members of the Harvey's Lake Rod and Gun Club are called upon yearly to chop holes in from 12 to 18 inches of ice to admit the trout to the lake. Distributing nearly 20,000 trout throughout the lake calls for an awful lot of chopping! Then there is the Flint Hill Conservation Club which assists in the stocking of the Lehigh River. They have never known defeat. When snows prevent our trucks from reaching the river's banks, a jeep complete with snow plow is on hand to "carry" them in. This year, with mud threatening to bury truck and driver alike, they happily accepted the job of hiking to the river afoot, and in some places it's a good walk. There have been times when a toboggan was used to reach the river when deep snows made other means impossible!

—J. F. Yoder, Warden, Luzerne and East Sullivan Counties

Teach a Boy to Fish and Hunt

By HENRY H. GRAHAM



YES SIR! There're worms to be dug.

Photo by—Henry M. Blatner

Statistics show that comparatively few boys who love to fish and hunt and enjoy the outdoors in general get into trouble with the law. Open air diversions furnish a release for their youthful energy, which is expended wholesomely.

Every boy should be encouraged to hunt, fish and go camping, for not only are these sports beneficial to the physical machine but they direct adolescent thoughts along healthful channels. I have never in my life known a boy who liked to use a shotgun, rifle or fishing rod who went wrong. They have all been pretty fine lads.

Some time ago a teen-age boy had this to say on the subject:

"A couple of years ago I used to run with a pretty bad gang. While we did nothing illegal we were tough or thought we were, and it would have been only a few short steps until we probably would have indulged in actual crime. We were rapidly heading in that direction.

"Then I began going fishing with my uncle. We would fish all day at a big lake and both of us got a big bang out of it whether we caught anything much or not. Through my uncle I met several boys of my own age who were very fond of fishing and hunting and began to chum with them, seeing less and less of my old cronies and finally dropping them altogether.

"In the meantime two of my old buddies have gotten into trouble with the law and I might easily have been one of them had I continued the association. I have learned to love the outdoors because of the trips with my uncle and because he took the time to

explain so many things about Nature to me. My pals and I have a wonderful time tramping the fields for quail and hunting ducks on the nearest marsh. We go after deer every year, too, and spend much of our free time fishing in season. I shudder when I think what might have happened to me had I not gone fishing with my uncle that day. My whole future hung in the balance."

An inspiring story, this, for it shows what outdoor sports can do for boys and how close one of them came to possible disaster.

What a wonderful thing it would be if every man who likes hunting and fishing would take at least one boy with him on some of his trips! A great many people would be spared shame and disgrace. Almost every youngster loves to fish and hunt after he goes a few times. It invariably gets into his blood. And he is almost certain to remain a hunter and fisherman the rest of his life.

It is well to take the boy in tow early—before he starts traveling with the wrong crowd. Youth is an impressionable age. It is easy for a lad to go haywire, but just as easy for him to go straight. The force of good example is of paramount importance. It is well to remember that today's youngsters will run the country tomorrow. And all of us want it to be run well. If we try our best to steer youthful thinking along clean, constructive lines we are doing a great deal to insure the future of this nation—certainly a most worthy objective.

I have known of several men who took boys hunting



AMERICAN HERITAGE! The patience and hope of boys out fishin'. Photo by—William M. Rittase

and fishing with them, even buying shells and tackle for them if the youngsters were unable to afford such things themselves. Always the rewards were well worth the effort.

One such man commented as follows about his experiences:

"Dave was kind of a mixed up kid. He was fifteen. His parents were separated and he lived with an older brother and his wife. The brother, however, did not care for outdoor sports of any kind.

"Being a neighbor of these people I got acquainted with Dave. He liked to talk tough and chummed with several boys known to have bad reputations. Dave was inclined to be smarty. His attitude seemed to be 'What business is it of yours?' There was a mean, sarcastic curl to his lip much of the time. He wasn't at all likable. But I felt that he deserved help—that he was a real fine boy underneath that rough veneer—that undesirable exterior. A product of a broken home, he had not received a fair chance in life.

"One afternoon we talked about fishing while he was at work mowing the lawn. I told him about the good luck I was having on a certain stream. I asked him to go with me. He just scowled and cracked, 'Aw, fishing's for babies. None of that stuff for me.' But he

finally did reluctantly consent to accompany me. I loaned him a complete outfit. Both of us had good luck despite his lack of experience.

"He had the time of his young life and always went with me at every opportunity in the future. The following autumn we went duck and quail shooting together. In the beginning his boyish enthusiasm would get the better of him and he wanted to shoot more than his limit. I explained to him that it was not right to be a game hog—that not only was it illegal but that the game laws were enacted for the benefit of everybody. I told him they helped to make sure that everybody would get his fair share, which would be impossible if a lot of people took too much game. I tried not to preach, knowing that youngsters resent this sort of thing, but still put over the point. He grinned understandingly and there was no more trouble along this line.

"Today, Dave is a young man in his mid-twenties. He is married, has two fine children and is a thoroughly decent, respectable citizen in every way. He is as fond of fishing and hunting as ever and never breaks a law. I am sure that in the years to come he himself will do as I did—take a boy with him on his outing trips and do his best to salvage a life. Had Dave not taken up fishing and hunting when he did there is no telling what might have happened to him. His story could easily have had a tragic ending instead of a happy one."

The man who takes a boy under his wing on trips afield should not only do some conservation evangelism so that the youngster will be a good sportsman but should stress safety measures with boats, firearms and so forth. The young hunter should be instructed in the care and use of guns to minimize the danger of accidents. He should be made to realize that in careless or incompetent hands a gun is a dangerous thing and that its safe operation should be uppermost in his mind at all times. This can be done a little at a time by example and coaching until the boy becomes automatically careful. The lad who grows up exercising caution and good sense will carry such a policy all through life, thus cutting down the likelihood of mishaps to himself and others.

The more expert a boy is as a hunter and fisherman the better luck he will have and the more he will enjoy these sports. Thus, it behooves the experienced man to impart all of the knowledge and suggestions possible. Boys learn fast because their minds are open and receptive. They appreciate the helping hand and the kind word. The skilled nimrod and angler can draw on his experience over the years and pass on many tips just as he himself was probably aided by some older person when he was young. Youngsters are always grateful for any short cuts to proficiency. Given a right start in the use of a rod or gun a boy develops rapidly as a rule. The veteran sportsman should do everything possible in his behalf.

Allegheny Allegro

By **DON NEAL**

Fishermen along the upper Allegheny River, especially in that section of the river between Tionesta and Warren, have never had it so good. Throughout all of the '59-60 season new records were set in every department—bass, walleyes, muskies, and trout—but it was the walleye (Susquehanna salmon, if you like) fishermen who were really hitting the jack pot. For the pike-like dandies were certainly whooping it up all along the river and the fishermen were scoring heavily by making good catches during the warm months, and phenomenal catches after the water had cooled in the fall. In fact, the unprecedented spree of this species kept gaining in tempo right up to the freeze-up, and only leveled off after a heavy coating of ice had covered the eddies. There were days—and more days—when it was no trick at all to take the legal limit of six within a few hours of actual fishing.

And six good fat walleyes are something of a catch of fish for any fisherman. For starting at the legal mark of fifteen inches these tasty pansters will weigh around two pounds each, to say nothing of the weight of those which are much longer and heavier. For instance, the thirty-inch husky brought to net by Dick

Jordon which weighed an even ten pounds, or the twenty-nine-inch beauty caught by Danny Modrovich which weighed in at a hefty nine and a quarter pounds. A few such fish will go a long way towards filling up a deepfreeze even if the possession limit is only a dozen in the possession of a fisherman at any one time.

In fact, during the past season the possession limit has been a matter of considerable concern to most of the active walleye fishermen on the upper Allegheny. For if they were fishing fairly steady it was no trick at all to have that number in storage and come home from a day's fishing with six more bubble-eyes that could easily total twenty-five to thirty pounds. These, of course, had to be distributed among the neighbors pronto. And as Bob Sibble pointed out, there came a



Yep! The youngsters get in on the act, too.



One more to add to the stringer.

time when this got to be something of a neat trick, for the average neighborhood has a definite saturation point when it comes to absorbing sustained surplus quantities of fresh uncleaned and unscaled fish. However, the problem in no way dimmed the enthusiasm of the dyed-in-the-wool walleye-ers and they managed to live with it throughout a very successful season.

For the walleye fishing on the upper Allegheny has been truly fabulous during the '59-60 season. It's a provable fact! For suddenly, and seemingly without reason, this river which has always been a consistent producer of the species was teeming with even greater numbers and catches were both heavier and more de-



Not a bad day, so far. Three on the way to the frying pan.

pendable than ever before. The improvement was first noticed by the bass fishermen who were taking them in considerable numbers right from the start of the season, but the full dimension of the exploding "pike" population only came to light as the dedicated walleye fishermen moved into action right after the first killing frost. From then until absolute freeze-up the rod-benders had a Roman holiday.

However, a cursory investigation has shown that the sudden increase was not entirely without rhyme or reason. In the first place, the Pennsylvania Fish Commission has been stocking these fish in the Allegheny with rather frequent regularity. Mostly, they have been small fish or fry, but evidently a large percentage have managed to survive and flourish in the river. And too, according to Joe Boccardy, chief fish culturist of the Allegheny National Forest, river conditions over the past several seasons have been ideal to promote the natural reproduction of the species. Given these two encouragements the Allegheny has responded lustily. And according to fish culturists and fish management men the increased population of the walleye will be maintained in the river for some time to come, as the basic breeding stock is well established and only a major catastrophe could upset the balance which currently stands in the river's favor.

Ken Corey, fish warden on the Warren area of the Allegheny, has been especially enthused with the improved "pike" fishing during the past season and has been extremely active in trying to track down the cause or causes which have brought it about. To date, his

observations are somewhat speculative and before being quoted he wants time to study all of its aspects more closely. But of one thing he is firmly convinced—that the next few years will be still better. For in traveling the river and studying its eddies, he has seen literally thousands of six- to nine-inch walleyes, and as Ken says, "Those babies will be legal fish before too long."

Ken also thinks that if there were more fishermen during the cold weather, the time when the walleyes are hitting at their level best, the truly "fabulous" nature of the present splurge on the Allegheny would be far more impressive. For as he states it, many of the finest eddies, which he is convinced hold unusually good fish, were completely deserted after the cooler weather came. I can agree with him on this. For one such place in particular was the eddy at the mouth of the Brokenstraw, just below Warren, where all through the summer months good walleyes were brought to net. A regular check of this hot-spot throughout the cold weather part of the season failed to show one fisherman gracing its banks.

However, there were many—many—other good eddies besides the one at the Brokenstraw where fast action and heavy stringers awaited the fisherman. In fact, the only locations actually getting a fair workout over the best part of the season were the eddies at the mouth of Conewango Creek, the Airport (Warren), the Gravel Pit (below Warren), and the mouth of Tionesta Creek at Tionesta. Other than that, the river was almost totally neglected. And with close to forty miles of fishable river water lying idle it is easy to understand what Ken Corey means when he says that a greater number of fishermen would make the overall results look considerably better.

In fact, a fuller and more complete harvest of the Allegheny's walleyes would possibly improve fishing in the future. For otherwise, the mushrooming of the species could possibly deplete the river's food supply, which is abundant at the present time, and thereby reduce the size and quality of the fish regardless of the other favoring circumstances. Yet it is pretty definite that once word of the walleye bonanza on the Allegheny reaches the average fisherman there will be little or no problem in this respect.

And for those who are ready and willing to lend a hand at keeping the walleye population within bounds come next season, here are a few tips. Spinners and spoons will work good in the early part of the season, but minnows are by far the best producers after the fringe of ice begins to form. Usually they can be obtained from bait dealers along the stream. Also, boats and lodging are available at any point between Tionesta and Warren if you have need of them. Just dress warm—WARM—for it gets a little chilly in these parts when the walleyes are hitting. And bring along a "guaranteed" unbreakable stringer—you may need it.

Fisherman's Paradise

Rules and Regulations—1960

(Conducted by the Pennsylvania Fish Commission on Spring Creek, 3 Miles South of Bellefonte in Centre County)

1. OPEN SEASON—May 13 to July 16, both dates inclusive. NO SUNDAY FISHING.
 2. OPEN—from 8:00 A.M. to 8:00 P.M. (E.S.T.) or until Klaxon is sounded.
 3. ALL ANGLERS MUST PERSONALLY REGISTER BEFORE FISHING AND PERSONALLY CHECK OUT AND RETURN IDENTIFICATION BUTTON BEFORE LEAVING PROJECT.
 4. TROUT IN THE POSSESSION OF ANGLERS MUST BE DECLARED AND DESCRIBED BY SIZE AND SPECIES AT REGISTRATION BOOTH WHEN CHECKING INTO PROJECT. FISH NOT SO REGISTERED WILL BE CONSIDERED AS HAVING BEEN CAUGHT ON THE PROJECT.
 5. ANGLERS MUST PARK AUTOMOBILES BEFORE CHECKING IN AND MUST CHECK OUT BEFORE REMOVING AUTOMOBILES FROM PARKING LOT.
 6. DAILY LIMIT—Only ONE TROUT may be killed. The Angler must stop fishing after ONE TROUT HAS BEEN KILLED.
 7. LURES—Only artificial lures with barbless hooks or regular hooks with the barbs removed may be used. No swivels permitted. Artificial lures and streamers of construction materials limited to feathers, silk, wool, fur, hair, tinsel or fibre, except that bodies of flies or streamers may be of plastic, cork or rubber. Weight or sinkers up to the equivalent of 2 BB shot may be built into the fly or streamer or affixed to the leader. Other lures commonly described as spinners, spoons, or plugs made of metal, wood, plastic or rubber, singly or in combination, are prohibited.
 8. Fishing with, or possession of, any live bait, angle worms, meat, liver or any other bait, is a violation of the rules and regulations.
 9. SIZE LIMIT—All fish caught from large stream under 10 inches in length and on ladies' stream under 7 inches in length must be carefully returned to the water.
 10. All anglers holding a Pennsylvania Fishing License will be permitted to fish five days during the season. Angler is permitted to register once only on any one day.
 11. The dressing or cleaning of fish will be permitted at the designated places, provided the fish have first been properly checked out.
 12. POSITIVELY NO WADING—in the stream for any purpose permitted.
 13. Fishing may be done only with fly-fishing tackle. Spinning is not permitted. Any method of fishing whereby the fly or streamer is cast directly from the reel is prohibited.
 14. Feeding fish PROHIBITED except on Sunday.
 15. All foul hooked fish must be carefully returned to the stream.
 16. Violators of the rules and regulations will be subject to a fine of Twenty Dollars (\$20.00), and revocation of fishing privilege on the project for one year.
- If you like this project you can help the sportsmen of the state by obeying these rules and reporting any infraction to the officers.
- Act 673 approved December 15, 1959, as amended, provides the Pennsylvania Fish Commission with authority to promulgate such rules and regulations for the angling, catching or removal of fish in or from any waters of this Commonwealth as may be deemed necessary. Penalty for violations—Twenty Dollars (\$20.00) and in addition thereto may be fined Ten Dollars (\$10.00) for each fish caught, taken or had in possession, contrary to these rules and regulations.

—The Pennsylvania Fish Commission
H. R. Stackhouse
Acting Executive Director



FLY FISHING IS FUN!!
BUT MANY PEOPLE ARE
EASILY DISCOURAGED
BECAUSE THEY DON'T
LEARN HOW TO
CAST PROPERLY.

THE MOST IMPORTANT THING IN FLY CASTING IS A BALANCED OUTFIT... THE REEL & LINE SHOULD MATCH THE ROD. YOUR DEALER CAN HELP YOU SELECT A BALANCED RIG.

THERE ARE THREE BASIC STEPS IN CASTING A FLY



1
PICK-UP...

...PULL OUT ABOUT 30 FEET OF LINE... THEN ASSUME THE STANCE SHOWN HERE. MAKE SURE THERE'S ENOUGH ROOM FOR THE BACK CAST. WITH A QUICK UPWARD MOTION OF THE WRIST & FOREARM... BRING THE ROD TIP UP TO A NEAR VERTICAL POSITION...

... STOP THE ROD ABRUPTLY IN THIS POSITION AND LET THE ROD TIP SHOOT THE LINE BACK OF YOU.... THEN, JUST BEFORE THE LINE STRAIGHTENS OUT

3
FORWARD CAST



...MOVE THE ROD FORWARD AND STOP IT ABRUPTLY AT A 45° ANGLE. JUST BEFORE THE LINE STRAIGHTENS OUT BRING THE ROD DOWN TO THE STARTING POSITION.

2
BACK CAST



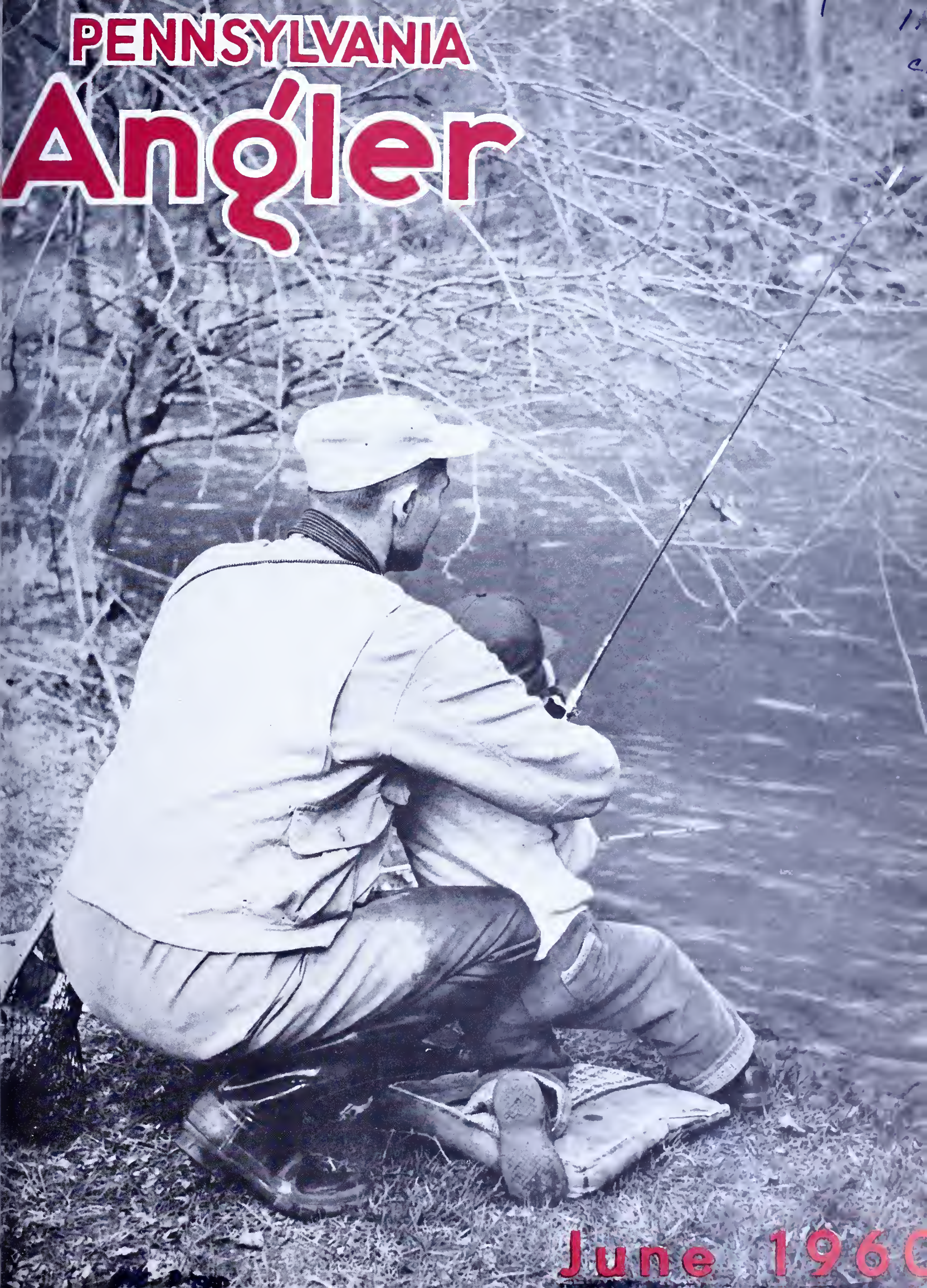
NOTE:

THE LEFT HAND CONTROLS THE LENGTH OF THE CAST: TAKE IN LINE FOR SHORTER CAST... LET OUT LINE FOR LONGER CAST..

PLAY IT SAFE!
USE A HOOK WITHOUT
A BARB.

JOHN F. CLARK-

PENNSYLVANIA **Angler**



June 1960

A Teen-Age Editorial

Hi! I'm Herman.

I'm a particle of dirt. I had a very humiliating experience not too long ago, and I'd like to tell you about it.

I was calmly floating down a creek one sunny day, when all of a sudden I got pulled into the intake of the water company. I didn't know where I was or what was going on, but I heard someone call the water I was in "raw water." Then I was put in a "settling basin." I realized then what was happening. I was hurt, deeply hurt. They wanted to get rid of me! They didn't want me in their water.

Well, just to be stubborn, I decided I wouldn't settle like I was supposed to. It dawned on me, then, that they really wanted to get tough. But I decided to stick it out to the last. I was put through a machine that put aluminum sulfate into the water. Oh, what terrible stuff! It was to take the mud out of water. It caused flock. What a gooey mess! I know I was supposed to stick to the flock and sink to the bottom. But I wasn't going to do it, I wasn't going to give in that easily. I pulled and tugged at the mass of goo. I finally got away.

After that I was put in a settling tank to settle some more. Again, I didn't settle. But then, my doom came

at last. I was hoping to see the inside of a house, but I never got that chance. They put the water I was in through a filter. I went through gravel, then sand. That was really rough.

Now came the hard part. They had tile on the bottom with tiny little holes. I didn't get through. I knew in two or three days they'd clean the filters, so I waited. After they cleaned it out, they took the dirt (what was left) outside and threw it away. But I'm no ordinary hunk of dirt, I wanted to know what they did to the water after we were gone. I sneaked back to the window sill and peeked in. After I was gone, the water was put in the clear well, chlorine and fluoride were put in.

Then a series of tests began. I'm sure glad I didn't have to go through all that. They had a turbidity test, an alkalinity test, a pH test (parts of hydrogen), a chlorine test (every hour), a fluoride test, a threshold odor water test (I guess they were trying to smell us) plus a few other tests. Gee, they sure kept up a constant safeguarding against water which is contaminated with us. I'm now kind of glad someone didn't drink me up and that I didn't get through that last filter.

*—By Miss Barbara Sommerville
Age 13, Camp Hill School*



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JOHNNY NICKLAS, Photographer

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Photo by Johnny Nicklas

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FISHING FOR answers to how to stop the truck followers and bait preferences of trout during the recent experimental project at the Commission's Benner Spring Research Station.

Fishermen are well aware that trout are finicky creatures. On occasions they will hit spinners, as if the lures were their only food. The next day they totally ignore spinners but take worms as though they were about to disappear from the earth.

Many anglers, however, feel that trout hit spinners out of pure cussedness—that curiosity is the main factor where, for example, a royal coachman fly is involved. In any event, dyed-in-the-wool trout anglers agree that the species prefer different baits on certain days. The question is “Why?”

If one had *all* the answers he would no longer need to work. He could sell his secrets and retire on his own trout stream. Short of asking the trout, and they won't talk, the only way to obtain possible answers to such questions is to set up a research-study experiment. This was done in conjunction with another study (See “A Fishing Experiment,” Part I—May, 1960, *ANGLER*) at the Pennsylvania Fish Commission's Benner Spring Fish Research Station that was designed by Dr. Henry Fortmann, assistant director of the Agricultural Experiment Station at Penn State University.

The original experiment was designed to study a method to prevent hatchery fish from biting immediately after planting, thus discourage truck following. In addition, however, to the findings in this regard presented in Part I of this report, a great deal was learned about fishermen, baits and species of trout.

In retrospect, 300 each of brook, brown and rainbow trout were used for the combined study. One hundred and fifty of each species were fed immediately before “shipping” and the remaining were starved for three days. The latter was the procedure when ground meat products and fish, instead of pellets, were

A Fishing Experiment

Part II

What Affects A Trout's Preference For Bait?

By KEEN BUSS, Biologist

Benner Spring Fish Research Station
Pennsylvania Fish Commission

Photos by
Johnny Nicklas

fed. On such feed, trout became ill when hauled in the tank truck—not so with pellet-fed fish. These fish, pellet fed and starved, were then hauled for an hour before being planted in a raceway at Benner Spring for the experiments.

Fifty fed and 50 starved of each species were planted in each of three sections of “stream.” The first section was fished the first day, the second section was fished 48 hours after planting and the third section was fished 72 hours later. Each group was marked by different fin clips.

For all practical purposes, on the second day, all groups were starved but to different degrees. The “fed” trout had been without food for only one day, while the “starved” group had been without food for four days. It was noted that after the first day the tendencies to feed, between starved and fed fish, decreased until by the third day there was little difference. This indicated that the length of time fish were starved had little effect on the return to the fishermen. The important fact was that after 24 hours, almost all fish responded to bait or lures as if they all had been starved—previous feeding history had little effect. To the fisherman this means that it is of little advantage to follow a truck load of pellet-fed fish, but be on the water stocked with them to fish the next day or the day after, as fishing will get better.

The fishermen used in the experiment were of varying capabilities—from expert to virtual novice. Nine anglers took part. Three used worms, three used artificial nymphs, and three used spinners. Each was allowed to use the bait or lure he preferred or with which he was most proficient.

Each raceway section involved in the experiment had nine stations, with a plank across each to give the trout cover. Each fisherman fished each station for a

period of ten minutes. The catches were checked after which each fisherman moved to the next station. The fishing continued with fishermen using the different type lures spaced alternately throughout the section, until each fished at the nine stations.

What were the results? As is usually the case on a stream, a few caught most of the fish with both skill and luck playing significant parts. However, the successful fishermen the first day were not always the most successful in subsequent days. To illustrate the difference in fisherman successes, call it skill or luck or what have you, look at this chart showing the extremes in catches of some of the fishermen in one particular day.

<i>Fishermen</i>	<i>Fish Caught</i>
Spinner Fisherman No. 1	27
Spinner Fisherman No. 2	1
Nymph Fisherman No. 1	1
Nymph Fisherman No. 2	26
Worm Fisherman No. 1	2
Worm Fisherman No. 2	22

Have you ever wondered why, therefore, when fishing that you, an expert, are beaten by a duffer at the other end of the hole or on another part of the lake?



TWO TYPES of fishermen at work. One performing like a novice (right), the other working at it (above). However, the experiment showed that the "sitter" sometimes gets lucky and winds up with a good catch, while the expert takes a licking. Nevertheless, in the long run the expert proved the adage that 10 per cent of the fishermen catch 90 per cent of the fish.



This was illustrated in the experimental stream, partly because trout have a tendency to group or school in places with the most cover and the better water conditions. Perhaps this little information will console you after those occasions when the beginner filled his creel while you were left "holding the bag"—your bag—empty.

To explain the reaction of the three species of trout to different baits, note the analysis of the first day's catch listed below. This represents the extremes in relation to starved and fed conditions of the fish involved. The figures show the percentage caught of the fish present in the experimental raceway.

<i>Baits</i>	<i>Brook Trout</i>		<i>Brown Trout</i>		<i>Rainbow Trout</i>	
	<i>Starved</i>	<i>Fed</i>	<i>Starved</i>	<i>Fed</i>	<i>Starved</i>	<i>Fed</i>
Spinners	11.6	11.6	10.0	8.0	8.0	12.0
Nymphs	37.1	6.9	14.4	4.0	8.0	0.0
Worms	23.2	4.6	10.0	0.0	12.0	6.0
Totals	71.9	23.1	34.4	12.0	28.0	18.0

The chart emphatically illustrates the preference of brook trout. This species was not interested as much in the spinner or "attractor" baits as they were in natural appearing nymphs, or worms—the real thing. Also, the vulnerability of hungry brook trout was emphasized by the 71.9 per cent of available trout caught in 90 minutes, while only 23 per cent of the fed brook trout were caught.

Starved brown trout showed little preference among the three baits while fed brown trout took the spinner almost as readily as did his unfed kin.

The catch of rainbow trout on spinners is the only instance where more fed trout were

caught than starved trout. This probably accounts for the fact that many rainbow trout fishermen prefer spinners. Worms are also a good rainbow bait, regardless of a full or empty belly.

Two like experiments were conducted a month apart

and statistically there was little difference between them, which helps add validity to the findings at least under these conditions.

Are some of your suspicions confirmed? If so, good fishing and don't sell the secret.

The Pity of It All!

By **L. E. STOTZ**

U. S. Forest Ranger

The month of April on the Sheffield District of the Allegheny National Forest showed on the debit side of the ledger two picnic tables completely destroyed at Morrison Run Picnic Area; a gas line that supplied Sheffield Lookout Tower with bottled gas shot in half with a rifle bullet; a fireplace stolen from a roadside picnic spot on the Mayburg Road; and a rash of new garbage dumps among the wildflowers along roads and streams.

But the most senseless of all these acts was the destruction of the two picnic tables at Morrison Run Picnic Area. Each table had been there for little more than a year but had already brought many hours of pleasure to families who had sought to escape the heat of last summer by picnicking in the forest beside a flowing stream.

The tables were burned up by a group of boys who must already have known all that there is to know in this world, and in desperation had to find some outlet for their creative energy. And so last summer's memories of picnics in the forest, by scores of families who had used these tables, went up in smoke and flame on an April night.

There are nearly half a million acres of national forest land at the very doorsteps of these boys. On this public land a vast outdoor laboratory exists to challenge them. But how many of them can identify the complex variety of trees, shrubs, and wildflowers that clothe the plateau and valleys? What do they know about the inter-relationship of the wildlife and the food and escape cover upon which these animals depend for their very survival? Have they delved into the geology of this region, and can they identify on the ground places where the great ice sheets of the Glacial Age sent out exploratory fingers? What do they know of the work of running water on the land—the hydrologic cycle; the fish life and its dependence upon man's use of the land? Are they steeped in the early history of this region, and do they know all about the struggle for survival of the native Indian tribes that once walked the forest glades? Have they

ever watched spellbound as an orb weaver spider spun her jeweled web? What do they know about the insect life that is all about them? When they have learned all of these things and many more about the fascinating world of nature, they will have neither the time nor the inclination to burn tables in a forest picnic area.

But on the credit side of the ledger in April were the actions of another group of boys. Volunteering their services, they helped to establish a Chinese chestnut plot of fifty seedlings on national forest land. The seedlings from elite stock of Chinese chestnuts were furnished by the U. S. Forest Service. Since each seedling had to be made deerproof by an individual wire enclosure, the wire and labor to install them were furnished by the Sheffield Rod and Gun Club. The cooperation of a team of men and boys for half a day resulted in another step forward in the long struggle to re-establish chestnut trees on the Allegheny Plateau.

I crouched down beside a boy who held a chestnut seedling in place between thumb and forefinger in a hole in the earth where another boy had sunk a mattock to open up the soil. Together we carefully firmed the brown soil around the labyrinth of roots until the little tree could stand erect by itself. I thought of the boys who had destroyed the picnic tables. Perhaps they were like the little chestnut seedlings that had to be held up for a time until they could stand by themselves. A boy and his understanding dad hiking, fishing or hunting together in the forest—this was the sort of relationship that could easily have prevented the sorry spectacle of a group of "teen-age boys" faces being lighted up in the dark of night by the glare from burning picnic tables.

The boy who crouched beside a tiny chestnut seedling until it could stand alone can relive the experience and in the years ahead can watch the little tree from far off China grow into a forest giant, but the boys who crowded around the burning picnic tables can have only bitter memories of wrongdoing.

Free Facts For Fishermen

By **DON SHINER**

Every angler who spends a few moments chatting in a friendly manner with other fishermen along the stream can pick up many helpful suggestions about fish and fishing. It is observing ingenious Americans in action. Every fisherman works out solutions to problems that he encounters, and to borrow these "free facts" is to add to your storehouse of knowledge.

For example, one evening, recently, I was seated comfortably on the streambank waiting for signs of an expected hatch of May flies to materialize. Soon another fisherman descended the steep bank with the same idea in mind. After lining his rod, he rummaged through the pockets of his fishing vest and extracted a shoe polish can. The name on the can was clearly legible. My first thought was that he intended to polish his boots, but this assumption was obviously ridiculous.



AN EMPTY, and clean, shoe-polish can makes a fine leader box.

With curiosity aroused, I watched as he opened the little can. Inside the container were assortments of leaders and tippets, each nicely coiled and labeled according to length and weight. The shoe polish can was indeed made to order for this fishing item. In fact, the more I pondered over this tin can, the more I realized it had merit also as a pocket box for flies, extra hooks, split shot and other lead sinkers, and insect repellent paste to name only a few articles. Unlike most abominable boxes which crack finger nails when an attempt is made to open them, the shoe cans have a small lever fixed to the side for this purpose. Even with wet hands, the lid is easily lifted ajar from the can.

Copy this idea. Save the next empty shoe polish



THE MUSSEL meat is excellent bait for catfish.

can. If you have objections to the manufacturer's name on the lid, one or two coats of paint will hide this nicely.

Another idea worth copying stems from a catfisherman acquaintance. Seated on a log at the water's edge, I noticed that each time his hook required re-baiting, the cat-angler simply reached down in the water and picked up a rock-like object. Using a pocket knife, he cut chunks of meat from the object, baited the hook and resumed his fishing. That object? It was a fresh water mussel.

Great quantities of mussels or mollusks are found along most streams. Standing on edge, the mussel travels snail-like and at a snail's pace along the gravel floor. Plowing a furrow through the sand and stones, it vacuums the bottom debris in search of edible material.

The mussel is excellent bait for catfish. Simply insert a knife blade between the shells, cut the muscle and open the mother-of-pearl jeweled case. Inside, the fleshy mussel is a tailor-made bait for these whiskered fish.

Bait is therefore no problem. An ample supply is found right at your feet. And as this angler suggested, examine the mussel before removing it from the half shell. Luck with you, there may be a bonus in the form of a genuine pearl!

Another ingenious fishing trick was the adaptation of the jig lure for walleyes. Fliers (news releases to outdoor writers) carried news of these salt water jigs being used with great success for fresh water game fish. Sport magazines soon began featuring stories



TYPICAL FRESH water jig-lures. Try these for walleyes.

about the phenomenal success of these lead lures. This new technique did not transfer into my fishing technique until a friend showed on-the-spot evidence of this superior lure in walleye angling. With the handsome catch of several eight-pounders, I was motivated into using this peculiar lure immediately. They excel for one very simple reason.

Because of the walleye habit of schooling in extremely deep water, trolling is the one satisfactory method of fishing during the daylight hours. The usual run of casting lures fail miserably because, by the time they reach the proper depth they have reached the boat and begin ascending to the surface. Rarely can one expect the lure to travel more than 10 to 15 feet at the proper bottom scratching depth. With jigs, it's different.

Sling a feathered jig far out into the river. Let it sink. Then bounce or hop it across the bottom, and keep right on "jigging" the lure directly under the boat. Walleye lunkers will lunge for the lead.

This jig is merely a hook molded into a piece of lead. The lead is painted a bright color, usually white, yellow or red, and contrasting feathers or bucktail is tied around the hook shank. Many different designs are presently on the market, all on par with one another. There are also moulds for those who wish to "roll their own." Casting jigs from scrap lead is the inexpensive way for bouncing lures on bottom snags, logs, crevices in rocks, rubber tires, et cetera. Lure loss is high. But the system takes walleyes and bass too.

Borrow this technique. You will be pleased that you did.

For what it is worth, I'll throw into the pot a tip that pays off in terrific action on the stream. It deals with the much overlooked rock bass, alias redeye, found abundantly in northern rivers. Serious bass (large and smallmouthed) fishermen are greatly disappointed when a bulge at a surface lure proves later that it was a rock bass that did the inhaling. However,

much to their dismay, the plug frequently is as large as the fish itself and the rocky's mouth is stretched almost beyond its limit as all three burs are inside the paper thin lips. Few fish can match this king size aggressiveness or piggishness. Most disappointing of all, the rocky offers less resistance than a maple leaf hooked to the lure. To this, most anglers are in agreement. But try this panster once on light fly tackle or ultra-light spin equipment.

Best of all, practically any time of day, the rock bass can be coaxed into action. One hot August afternoon, I caught and released 27 rockies in less than twice that many minutes. The largemouthed bass hung their heads in shade of lilies or retired to deep water and simply could not be interested in the usual



THE BEST knife for fishing carries a hook hone in the handle.

lures. Armed with a light trout rod and several tiny hair bug lures, the redeyes and I did just fine.

A tiny spinner and fly combination also accounts for great quantities of these bass. A small blade about the size of your thumbnail and a gaudy fly in tandem is a good bet.

These fish prefer backwaters or eddies in both rivers and lakes, and stay close to piles of rocks. Let the boat drift within easy casting range of shore, or wade along the shallows, spinning a lure or flipping a trout fly toward the rocky shoals as you move along. If you want action, the rocky bass will spell it with a capital A.

Years back, any knife that was sharp enough to slit the belly skin of a fish I considered a good fishing knife. A trout fisherman last year changed this conception. His knife had a hook hone fastened to the side of the handle. He honed the hooks on his trout flies more often than I lit my pipe. Result was he rarely lost a fish on the size 5x tippet.

Each time his fly touched a tree limb on a back cast, he stopped to hone the hook. After hooking and

landing each trout, he followed the same procedure. The point was kept needle sharp and the slightest rod pressure set the hook in a jumping trout. Of course, a small pocket hone will serve the same purpose, but this means just one more article to be stored in the already bulging pockets of a fishing vest. The hone on the knife handle cuts down on this pocket of accessories, and fastened thusly, the hone is rarely lost or hidden in the paraphernalia.

A good fishing knife also incorporates these features: (1) a saw tooth on back edge of blade for scaling fish, (2) blade must be quality steel to hold an "edge," (3) should be six inches in length when closed, as an aid in measuring fish, (4) end of handle should contain an offset or notch for use as a hook degorger, (5) should have brass spacers between blades to prevent rusting. Such a tool is invaluable to a fisherman.

An effective bait for both trout and panfish is the small mill worm, or "golden grub" as it is known commercially. Winter fishermen use these larvae to catch bluegills, perch and smelt through the ice. The remainder of the year, factories turning out food for turtles in aquariums, are the only institutions or persons showing interest in these insects.

I watched a trout fisherman hook and land trout after trout from a long riffle in the Loyalsock, a popular Pennsylvania stream. I had to know, for I was overwhelmed with curiosity, what bait he carried in a small jar. The bait was small golden grubs, the largest measuring an inch long. Only one was used on

a tiny No. 14 fly hook, and his long leader was tapered to 4x.

To trout, the wheat worm was mistaken for a caddis or stick worm. And a lot of trout made that mistake in identity that day.

During the spring and summer, grist mills and farm barns, where wheat and grain sacks are stored, are literally overrun with these larvae. By lifting up bags of wheat, quantities of these grubs can be found. And for panfish and trout, they work just fine. What remain in the jar after the outing, place in the refrigerator for storage until the ice-season returns.

I picked up a tip from a veteran bass fisherman that really puts largemouths in the creel. It concerns one particular hook designed specifically for this job, and the hook itself reminds one of a hangman's noose. The impression is more than symbolic, for it has hung many a fine bass to the fisherman's stringer.

This is the frog hook or harness. A wire noose or band is fitted around the small frog's mid section while the hook is inserted through both lips of the frog's mouth. The harness holds the frog in place for casting or spinning into thick beds of lilies.

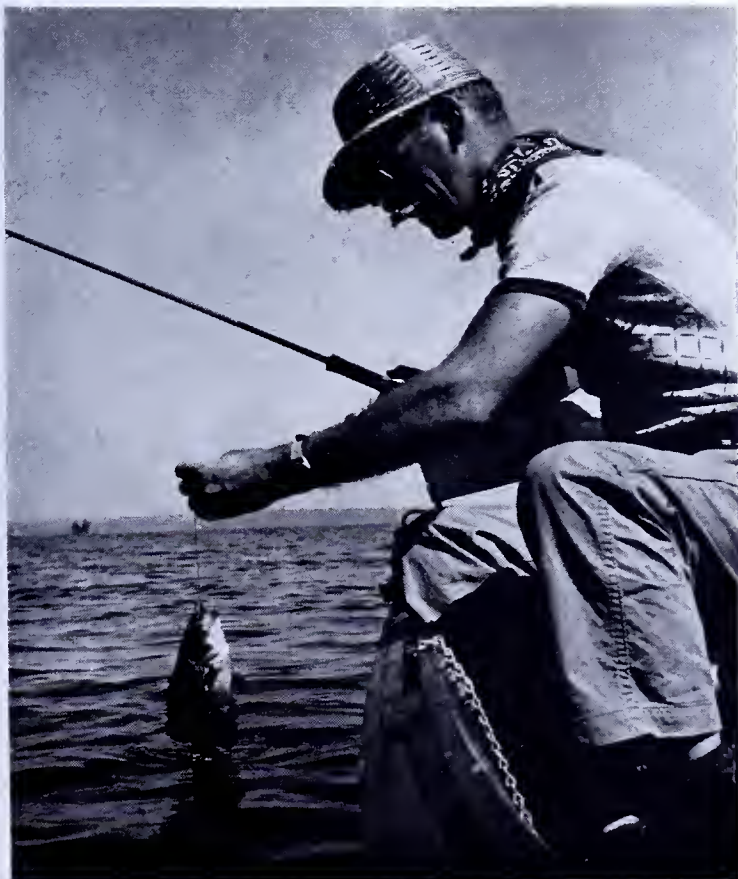
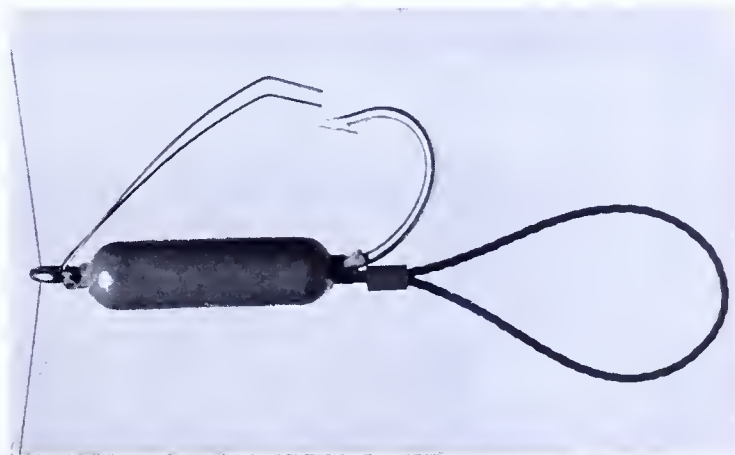
Personally I have always detested hooking a live frog. Their front feet are almost human-like as they clutch the hook stinging their lips. Yet, frogs worked slowly through beds of lilies or grass do net bass. One can feel more humane by first killing the frog and then fastening it in this harness.

The rig, of course, is fitted with wire weed guards. And depending upon whether you wish to use the bait on the surface or near the bottom, it may or may not have a lead weight fastened to the shank of the hook.

There are several designs of frog harnesses available on the market. All of these do the job of holding the frog securely and creeling bass in coves so filled with vegetation that ordinary lures and methods cannot be used. The cost is roughly 25 or 35 cents. It is the best investment you can make for action packed largemouthed bass fishing.

Here's how to use this rig. With the frog fitted in

ONE OF SEVERAL frog harness hook designs.



WHEN BASS refuse to hit, try fishing for rock bass and enjoy action!



MEAL WORMS (Tenebrio). Found in grist mills, these worms are excellent trout and panfish baits.

place, east it toward a bed of lily leaves or thiek gardens of grass. Let the frog rest on the surfaee for a long time. Then slowly retrieve line, eausing the frog to "swim" from one pad to another. Just as the bait slides from a pad, an old moss-baek will grab it. Don't set the hook immediately. Permit the bass to mouth the bait for several moments. When you guess the fish has had the neecessary time to stuff the entire frog into its huge mouth, set the hook hard. Ten ehanees to one, the bass will immediately wind the line around several lily stems. This is not a diffieult problem. Move the boat to the spot and haul in bass, lilies and all into the boat.

These are only a few of the free facts I have absorbed from other anglers along Penn's streams. When you borrow these you are destined to have more fun fishing.

ANGLER QUIZ

By Carsten Ahrens

Arthropods ... The Animals With Many Jointed Legs

A. Crayfish,
Crawfish,
or Craydads



Crayfish

B. Pill Bugs

C. Ticks, Mites



Spotted Fever Tick

D. Centipedes

E. Spiders

F. Horseshoe Crab

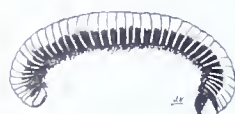
G. Fairy Shrimp

H. Millipede

Millipede

I. Scorpions

J. Water Fleas



- 1. These are almost microseopie but very important food souree for young fish.
- 2. These animals appear in melting snow. They mate, lay eggs, die. The eggs lie for a year waiting for more snow and a thaw.
- 3. A "fossil" animal found abundantly along the Atlantie Coast; ground up for fertilizer.
- 4. These have 8 walking legs, a poison gland in the posterior end of the body; they are uneommon in Pennsylvania.
- 5. These have 10 walking legs for moving sedately forward, but when they want to get somewhere in a hurry, they swim baekward.
- 6. These have 8 legs, each longer than its body; poison glands in the anterior end of body.
- 7. One pair of legs per segment; swift in movement; flat in eross-section; poisonous.
- 8. These have 8 legs, each shorter than its body; they are the veetors of disease produeing organisms.
- 9. These play possum; they roll up in a ball when disturbed.
- 10. Two pairs of legs per segment; slow in movement; round in eross-section; non-poisonous.

ANSWERS

A-5; B-9; C-8; D-7; E-6; F-3; G-2; H-10; I-4; J-1.

Commission Men Go Fishing— It's Strictly Business

State Workers Fill Nets at Conneaut With Breeders for Linesville Hatchery

By ROGER LATHAM, Outdoors Editor

The Pittsburgh Press

The day after Easter this year was hardly a pleasant spring day in Northwestern Pennsylvania. A strong north wind blew snow and sleet biting before it across the rough waters of Conneaut Lake.

In two boats bumping over the choppy waters were three Fish Commission men and I. They were there to catch fish and I was there to catch a fish story.

In the boat with me was Carlyle Sheldon, regional warden supervisor for the Northwest Region. In the other boat were Bill Daugherty, regional fisheries manager, and his assistant, Richard Dean.

As we moved up the lake, large flocks of migrating ducks lifted off the water and wheeled away with the wind. Ruddys, bluebills, buffleheads, baldpates, teal, mallards, a pair of white-winged scoters and even a lonesome loon all seemed reluctant to fly in the nasty weather. But soon we reached the upper end of the lake and the work began. The Fish Commission men were there for a special purpose—to catch large breeder muskellunge, northern pike and walleyes for the state fish hatchery at Linesville.

Catch them we did. The six nets produced three nice muskies and many northers and walleyes. The muskies were not large, probably no more than eight to 15 pounds, but they looked mighty good to me.

Northern Pike Abound at Conneaut

Conneaut Lake is full of northern pike with literally hundreds of them in the three- to five-pound class. Last year one was caught on hook and line which tipped the scales at 22½ pounds. The take of northers in five days at Conneaut Lake was more than 350 and the hatcheries were certainly well stocked with eggs for the coming season. The walleyes in the nets ran from about two pounds up to six or seven pounds—nice fish in any man's lake. There were some dandy largemouthed bass, too.

The surprising thing to me was the great number of panfish in the nets, especially their size. Nearly all of the hundreds of crappies, perch, bluegills, sunfish and bullheads were large and showed little signs of stunting. But this seemed logical enough when we discussed the high population of predator fish.

Certainly not too many excess panfish would ever grow up with all the bass, walleyes, northers, muskies and gars taking a daily toll.

We took the muskellunge and best walleyes back to the hatchery in a tank truck. There Superintendent Jerry Zettle and his men put them in holding troughs where they will be "milked" of eggs and milt at the proper time. The fertilized eggs will be placed in batteries of large glass jars to hatch.

This year for the first time, an experimental closed system is being used for some of the eggs. When the circulated water is taken directly from Pymatuning Lake, as has been the custom in the past, it varies greatly in temperature. Thus, a prolonged cold spell or a quick drop in temperature might have disastrous effects upon the incubating eggs.

But with a closed system, the temperature can be kept uniform, the silt removed by means of filter and certain chemicals added to the water to prevent fungus and bacterial problems.

Tank Truck Arrives With Bounty

On the same day, we dropped in at the Union City hatchery to see how Foreman Leroy Sorenson was progressing with his egg collecting. We arrived just in time to greet the tank trucks returning from lifting nets in Canadota Lake.

They had nine beautiful, big muskies, a number of nice pike up to seven or eight pounds and some good walleyes. The hatchery jars already had millions of eggs in them. Jars with walleye eggs held either one quart or two quarts of eggs and there are 140,000 eggs to the quart!

Most of the breeders are returned to the lakes, where they were caught when the eggs have been taken, but a few are used to introduce these fish to new waters in Pennsylvania. This is surely a program which will pay big dividends in the future. Right now Pymatuning Lake is "loaded" with muskellunge and fisheries men predict that some day soon this lake may produce finer muskie fishing than Chautauqua Lake in New York.

The only reason that the fishing is not as good as it should be right now is because the lake is teeming with small fish. With all this food so easily obtained, the big fish have little reason to strike a fisherman's bait or lure.

But one thing is sure. Northwestern Pennsylvania lakes are loaded with fine fish. All the anglers have to do is learn how to catch them.

The "Musky" Program

By

C. ROBERT GLOVER

Conservation Education Division



TYPICAL OF a musky fingerling planting. These youngsters, up to 12 inches, are being netted from the tank truck for transfer to their new-home waters. Photo by Johnny Nicklas.

The natural range of the muskellunge in Pennsylvania is limited to some waters in the upper Allegheny River basin and the Lake Erie drainage. The Pennsylvania Fish Commission in recent years has introduced the species in 18 water areas—rivers and lakes—beyond that range. And there is another—the lake in the new Gifford Pinchot State Park in York County—to be added to the list in 1960.

All of these musky waters, natural and new, are shown on the accompanying map. For the purpose

It's a dual effort in Pennsylvania—to bolster populations of this mighty fish in some waters of its natural range and to extend that range through experimental plantings and management practices.

here, "new" means (1) newly built lakes by the Pennsylvania Fish Commission or the Pennsylvania Department of Forests & Waters and water supply reservoirs and, (2) existing waters not heretofore populated by the species.

The waters that have been included in Pennsylvania's muskellunge program from 1953 to the present and for the next few years, as now planned, also are charted herein.

But it is the experimental phase of the whole program in which the great hope lies to improve Pennsylvania's stature as "Musky State." And the success of that phase or any part of it will be crowned only if a sufficient number of the initial plants not only sur-

vive and grow but propagate and perpetuate their kind in the new waters.

On the second count Pennsylvania is still two to three years away from answers in its five-year experimental waters except in South Fork Ten Mile Creek. In this Greene County stream, wherein the five-year experiment was started in 1955, if there is to be any natural propagation it should show up this year (1960) in the form of yearlings or by late summer in the form of fingerlings. Close creel checks by district wardens and stream studies through netting and with the electric shocker by the Fishery Manager will be the order of things there this year in the effort to find the hoped for evidence that natural propagation has taken place.

On the first count—that of survival and growth, answers are now beginning to trickle in.

It is to be noted that plantings in waters wherein the species was present have been marked by fin clipping. Initial introductions in new waters have been unmarked but successive annual plantings are being marked by clipping a different fin each year, i.e., left pectoral the second year, right pectoral the third year, left ventral the fourth year, etc. This procedure is mainly to identify the year of planting and to determine growth rate of those caught by fishermen or recovered by other means and returned. In some instances fin clipping could also serve to establish for the Commission's fishery managers, the status of individual specimens in relation to maturity.

This much is known of the plantings to date in some of the waters involved:

In the spring of 1960 five mature males were re-

covered in a study trap net on Moshannon Lake. Several other specimen were similarly taken and also released with no way of telling sex as none were "ripe" (ready to spawn).

Several have been caught by fishermen, one 42" long, in South Fork Ten Mile Creek.

Six have been accounted for to date of those planted in the two Susquehanna River dams. Two were tabulated by fishery manager Bob Bielo in his trap netting studies and released—one measured 18" and was 14 months old, another was 24" long and 16 months old. The third was a victim of the November, 1959, fish kill in that section of the river as a result of an accidental industrial cyanide discharge. It was 26" long and 19 months old—a fantastic growth rate according to fishery biologists. Two others, each 19" long, were reported by fishermen but not authenticated. The sixth, a 27" long specimen was taken by a fisherman and verified, from the tailrace of the Holtwood Dam and released.

The only other verified recoveries were made in Conneaut and Canadohta Lakes and the Pymatuning Reservoir. These were all mature specimens taken during the springs of 1958, 1959 and 1960 by Commission personnel in their trap netting operations to obtain a supply of eggs and continue the hatching and raising-to-fingerlings stages of its program. However, there has been no noted indication to date that successful spawning has taken place in the Pymatuning Reservoir.

Pymatuning was first stocked in 1953. In 1958, 72 were caught; in 1959, 52; and in 1960, 58. This is an

(Continued on Page 15)

Know the Muskellunge



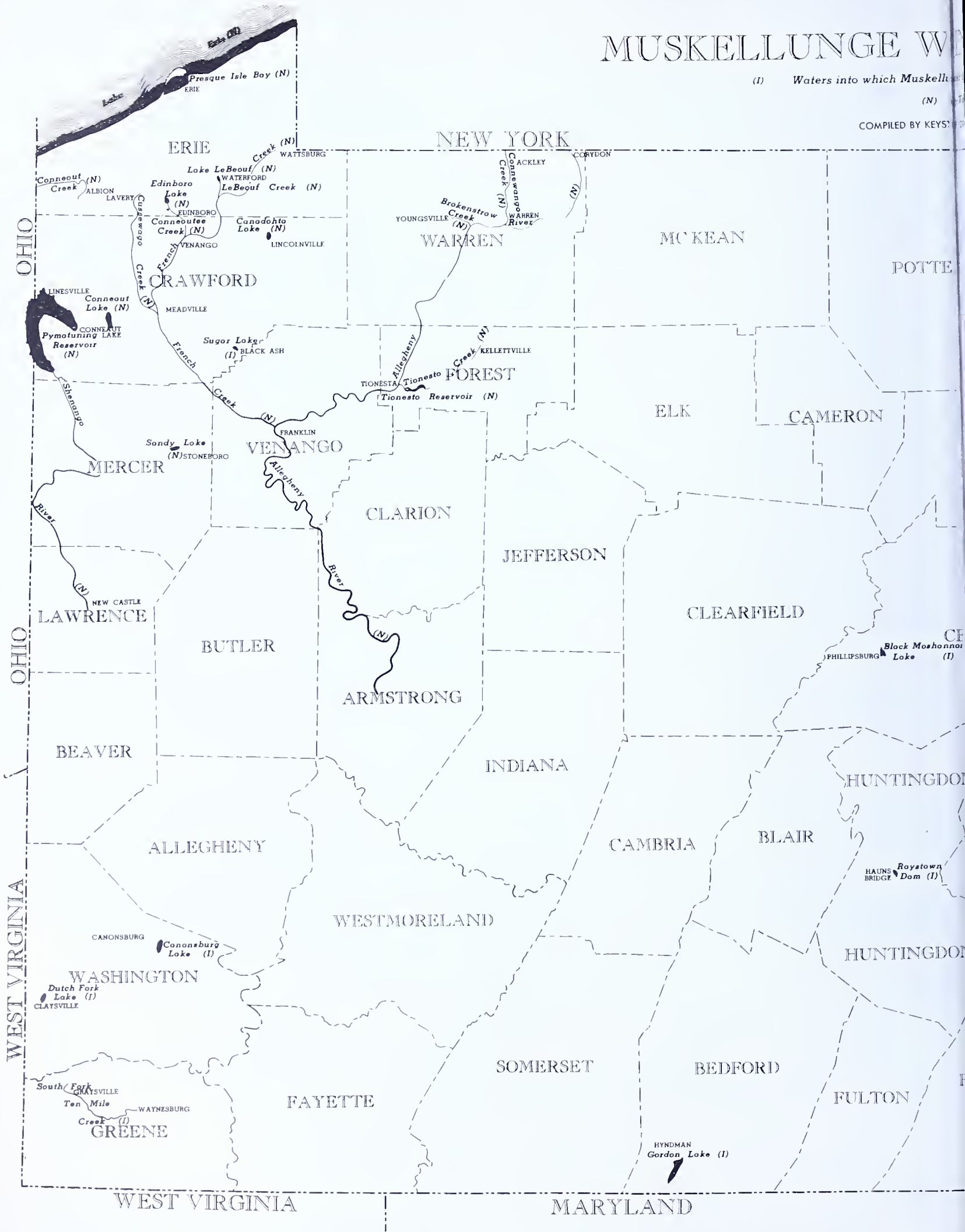
PHYSICAL CHARACTERISTICS that will distinguish the muskellunge from his cousins, the chain pickerel and the northern pike, are: scalation on only the upper halves of the cheeks and gill covers, and the vertical bar markings and/or dark spots irregularly spaced on the body. Not shown but equally positive as a means of identification are the seven or more prominent sensory pores along both sides of the under jaw. The pike and pickerel have less than seven. The pickerel has chain-like markings and full cheek and gill cover scalation, while the pike has light kidney-shaped markings and full cheek but only upper half gill cover scalation.

MUSKELLUNGE W

(I) Waters into which Muskellunge

 (N)

COMPILED BY KEYS?

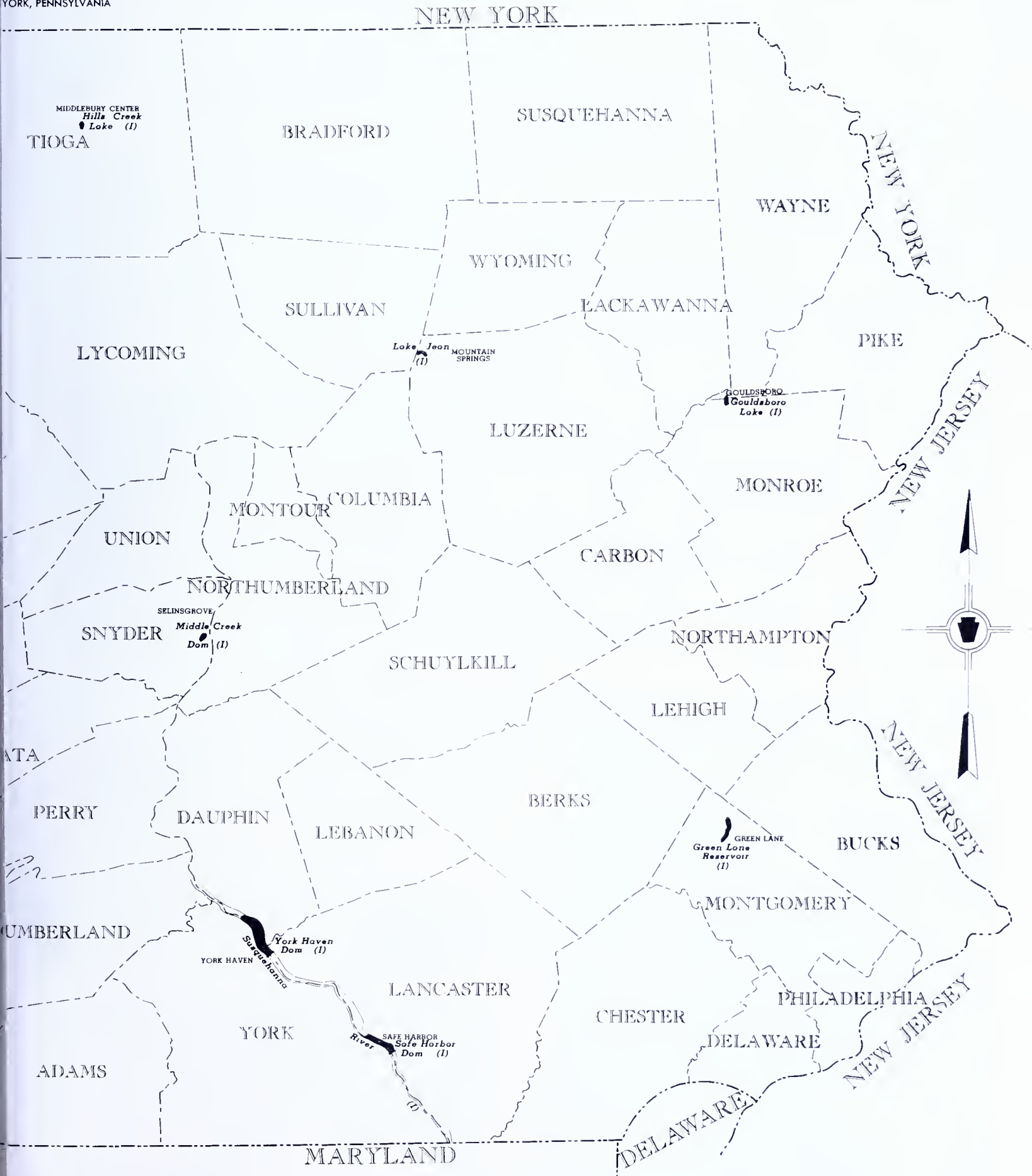


IN PENNSYLVANIA

ed by Pennsylvania Fish Commission

Waters

YORK, PENNSYLVANIA



Record of Muskellunge Plantings—1953 to 1959

Fingerling (5"-12")

Water Area	County	N	I	Five-year Experimental Program	1953 & 1954	1955	1956	1957	1958	1959
Gordon Lake	Bedford		X	X	—	—	—	—	300	300
Moshannon Lake	Centre		X	X	—	—	725	720	700	1,400
Bald Eagle Creek	Centre and Clinton		X	X	—	—	705	—	200	200
Bald Eagle Creek Dam	Clinton		X	X	—	—	—	210	100	100
Canadohta Lake	Crawford	X			—	50	750	—	300	400
Conneaut Lake	Crawford	X			—	50	790	—	400	600
Pymatuning Reservoir	Crawford		X		840	137	—	1,230	—	90
Pymatuning Sanctuary	Crawford		X		—	—	—	700	170	113
Sugar Lake	Crawford		X		—	100	—	—	—	—
Cussewago Creek	Crawford	X			—	—	—	—	—	200
LeBoeuf Lake	Erie	X			—	100	—	—	300	400
Edinboro Lake	Erie	X			—	—	—	—	300	400
Tionesta Reservoir	Forest	X			—	—	900	—	—	—
S. F. Ten Mile Creek	Greene		X	X	—	100	100	100	100	200
Raystown Dam	Huntingdon		X	X	—	—	—	—	1,000	1,000
Safe Harbor Dam	Lancaster		X	X	—	—	—	—	1,000	1,000
Lake Jean	Luzerne		X		—	—	—	—	—	*5,000
Sandy Lake	Mercer		X		—	—	—	—	—	200
Middle Creek Dam	Snyder		X	X	—	—	—	—	100	100
Hills Creek Dam	Tioga		X	X	—	—	—	—	300	300
Dutch Fork Lake	Washington		X	X	—	—	—	—	—	300
Gouldsboro Lake	Wayne		X	X	—	—	—	—	495	316
York Haven Dam	York		X	X	—	—	—	—	1,500	1,000
				Totals	840	537	3,970	2,960	7,265	13,619

*The Lake Jean planting of 5,000 muskellunge fingerling in 1959 is an experiment based upon a single large introduction in a newly reclaimed lake that has been treated with cement stack dust. The effect, if any, this material of high lime content will have on the pH of the water and on the survival, growth and reproduction of the fish in a planting of this size will constantly be checked. The results will dictate whether the procedures will be abandoned, modified or continued as a management method on lakes of this type.

ADULT (30" AND OVER)

Canadohta Lake, 1956-19; 1957-3; 1958-4; 1959-1. Conneaut Lake, 1958-15; 1959-4. Pymatuning Reservoir, 1953-2; 1954-56; 1955-40; 1957-6; 1959-7. Sugar Lake, 1959-1. LeBoeuf Lake, 1954-19; 1955-22; 1956-3; 1958-6; 1959-3. Edinboro Lake, 1958-5; 1959-12.

FRY (1" TO 3")

Pymatuning Reservoir, 1953-5,000; 1954-5,000; 1955-10,000. Canadohta Lake, 1955-5,000. LeBoeuf Lake, 1954-5,000; 1955-5,000. *Canonsburg Lake, 1958-10,000.

*The Canonsburg Lake plantings of large numbers of fry each year is another muskellunge management experiment. The project provides for the planting of 10,000 fry each year when they are available to determine the results of this type planting as compared with fingerling plantings in other waters. Though fry were not available in 1959, it is hoped that sufficient will be on hand in 1960 and thereafter to continue the experiment with annual introductions until there is an indication of positive or negative results.

The "Musky" Program

(Continued from Page 11)

amazing return of stocked fish considering that only eight trap nets were used in 13,000 acres of the reservoir. Also interesting is the fact that these fish lived in the face of a heavy concentration of other species including white crappies. The females recovered, stripped and released in 1960 averaged 18 to 21 pounds and were 38" to 41" long. There were marked fish, up to six years of age.

In Canadohta Lake, forty-seven muskies were trapped in 1960. All year classes were represented. Over half of those trapped were marked. Canadohta was stocked first in 1955. Most of the spawners were from the 1956 planting of 750 marked fingerlings.

As the present program progresses it is the plan to step up the check by Commission personnel for both planted and naturally propagated muskies in all of the waters involved. In this effort the fishermen can be of vital service.

Fishermen who visit the state's musky waters should be certain of their ability to identify a muskellunge. The sketch and noted distinguishing characteristics set forth in this piece will serve as an identification guide. Further, extreme care should be taken in handling and releasing undersized muskies (less than 30").

And all those caught, whether undersized and returned or legal and retained, should be reported along with as much data as can be obtained to the district warden or the regional fishery manager. Such information as the locale of the catch, the length of the fish, its general condition and fin clipped markings will be of great value.

By these means—identification, careful handling of undersized fish, and catch reports—the fishermen of Pennsylvania can not only play a major role in the Commission's program but contribute materially to the prospect of establishing this largest and gamest of fresh water fishes in more of the Commonwealth's waters.

What turn the musky program will take beyond the present five-year plan is yet to be decided. Much will depend upon the return to the creel of those planted, whether populations can be established and maintained by natural propagation and the success of the newly instituted experiments and studies. The latter, under the direction of Keen Buss, Commission biologist, was undertaken to improve the Commission's propagation and rearing programs, not only numerically in relation to the original supply of eggs but also to bring these phases of the program within greater economic feasibility.

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Youngster Captures Big Brook Trout

Duane Hurlburt, 11-year-old son of Mr. and Mrs. Andrew Hurlburt, Coudersport, landed this huge brook trout after a half-hour tussle Monday, April 18, on a night crawler. He was fishing in the Allegheny River flood control channel just below the Chestnut Street Bridge in Coudersport when the catch was made. It was the lad's eighth and last trout for the day. Just as soon as the brookie was landed it fell off the hook—with Duane right on top!

—Enterprise Photo





THESE TROUT were not smart—only nitwits think that way.

Nymph-Fishing

Subtitles

By RAY OVINGTON

An art imported from the British, nymph-fishing has had hard going in America, yet it is one of the most fascinating forms of fly-fishing.

The day is perfect. The stream is clear, with the gold of the bottom rocks mingling with the blue of the sky reflection. Spring is definitely in the air and the migrant birds are everywhere, criss-crossing the stream or singing to their prospective mates. The stream is full of fish. This we know from former days of fly-fishing. There ought to be a hatch of May flies during mid afternoon, right after a nice lunch and a short snooze along the bank near a clump of mint beneath the giant pine tree at Mills Pool.

But right now, east after east has gone by with nary a strike or even a sign of a trout. A look from the high bank is in order. Perhaps we can discover just why the fish are not feeding, or at least if they are, what they are working on.

Up from the long flowing pool, we walk along the wooded path and scan the bottom where reflections allow. No signs of anything moving.

Wait a minute. That flash. That was no reflection. A squint into the water reveals one trout, two, three . . . all in a row behind a rock, rooting along the gravel. They are feeding on nymphs. Right on the bottom.

Now all books say that during this time of the year, it is not necessary to sink your flies down deep as the fish are feeding on nymphs that are going to hatch or dead flies that are being whisked by in the current.

"Taint so!

Many nymphs hang near the stream bottom and several of the most common varieties cling to the refuse and rocks until the time of hatching. This means that when a hatch is not in progress, the nymphs are lying low for the signal from Mother Nature. The trout know this and when they are hungry they go down for 'em. Witness what we have just seen. Watch the stream once in a while instead of fishing on so blindly. It will pay interesting, informative and effective dividends.

Back down on the stream we try an old trick we've never seen anywhere before. We invented it some years ago as a way to sink a leader and brace of nymphs without the danger of snagging. The east works almost as well as a free leader.

Here's the trick:

Take some light lead wire. Cut off a strip about two and a half inches long. Now take your roll of Scotch tape and tape that strip near the center of your leader. Don't roll it on . . . tape it on flat. Now take another strip about half that length and attach it in the same way in the lower section of the leader. If necessary to go down deep, attach a third strip between the tippet fly and the end fly. This east will go out nicely, though a bit heavier than usual. It is a far better rig than wrap around lead or split shot. Sure, it won't last too long, but the leader will be none the worse for wear and the lead can be removed quickly.

Cast lazily up and across the current. You'll notice

that the leader sinks more rapidly yet it remains as free as without the weight, offering little or no resistance to the nymph's action in the water, the all important factor which separates theory from results.

The object in all wet fly-fishing is to have the fly behave as it should. If it is designed rightly, the hackles will appear lifelike in the water. When the fly moves too fast, the hackles and wings of the wet fly fold back on the hook shank, covering the body colors and thus the fly is not natural. If the fly simply sits in the water without any motion it is lifeless also. With that much slack, if a fish hit, you'd never know it anyway.

A pair of Polaroid glasses is must equipment if you are to see your fly in the water. Without this help you might just as well go home. Blind fishing is stupidity.

The other trick up our sleeve for this month is designed for the actual time of the hatch. Here the insects float for a considerable time right in the surface film as they try to hatch from the lobsterlike shells. There are two ways of imitating this. Remember that the fish sees silhouette now and form is all important. Sparsely dressed flies are called for. To keep the fly in the film, three ways are offered.

First: Dope the fly with dry fly oil and also oil about three inches of the leader. You are now fishing a nymph as a dry fly. Second alternative: Use a wet fly but first mess it up unmercifully, twisting out the wings and ruffing up the hackle. Dope this mess and the leader. This is a perfect imitation of a hatching

nymph. The last alternative I've found effective is to attach a dropper dry fly of the kind that is about to hatch. This acts to hold up the other fly in the film and also act as a warning bobber.

Up until the time you actually see the dun flies riding like sailboats on the water and most important, being sucked in by the big cruising beauties underneath, use these techniques as outlined. Dry fly-fishing has its place and that is only when the fish are feeding on the duns. This can only happen when the majority of the flies have hatched. Dry fly-fishing then is outright murder. Before that time, fish taken on dry flies are pure accidents.

Use long leaders in nymph-fishing. The farther away that pesky line is kept from the fish lanes, the better they take. No sense in scaring them unduly. Proper wading technique comes in as a must. A proper wader moves over the bottom very slowly. An expert can have fish feeding right between his legs, jumping against his wrist to take flies off his rod handle or reel.

Yes, nymph-fishing is an art. Some think that the trout is a wary hard-to-outwit fish. Only nitwits think that way. Trout are dumb. But being that way they adhere to trout logic which is very simple. Feed where the feed is. When it is down, go down. When it is up, go up. Fishing for trout is as simple as that. We just like to think it is more complicated and use the complication as an excuse for an empty creel.

Sorry, but I've spoiled your last illusion and worst of all, broken down all your excuses.

When in Doubt—Troll

Trolling is one of the "fish-gettingest" techniques you'll ever use.

Trolling doubles the amount of time actually spent in fishing, observes the Mercury Outboard Company. Unless you dangle a worm or other form of bait, about half of your fishing effort is non-productive. Fish seldom strike lures in that time-consuming interval between casts. And plugs lying in the bottom of a boat while anglers change location are not known for catching lunkers.

The advantages of trolling are many. Your lure is in the water constantly and you're on the move. While you're looking for fish, you're also fishing. A long shoreline can be covered in a short period of time, and you'll discover those hard-to-locate underwater weed beds and brush piles where game fish congregate. When you get a strike, stop and start casting.

The first rule to observe in trolling is to get your lure down on the bottom and keep it there. Normally, bottom foods such as crayfish and aquatic insects make up most of the fish's diet. It makes sense, therefore, to fish this food zone. Some periods of the day or season will prove to be exceptions, but generally deep fishing with terminal gear bouncing off rocks and slipping through vegetation pays off.

Choosing the right trolling speed can be boiled down to one word—"slow." Again, this is not always the case, but it usually proves correct. Change speeds occasionally if you're not getting any action; fish respond in a highly unpredictable fashion.

Crank up your outboard, throttle down to a snail's pace and settle back for some rewarding fishing. When in doubt—troll!



Notes FROM THE STREAMS

A Course in Crossword Puzzles

While patrolling an area along Tulpehoeken Creek, special fish wardens Henry Forry and Lloyd Hartman came upon a freshly dumped pile of garbage. They found a lot of tiny, torn pieces of paper which they gathered up in an envelope and took to Hartman's house. The two of them worked on the

—AND I USED TO THINK
PUZZLES WERE FUN!!

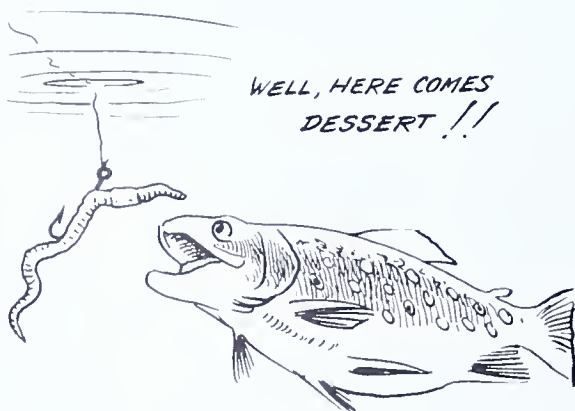


dining room table until early hours of the morning when they were finally able to find enough pieces to make out a name and address. I contacted the party and they admitted dumping the garbage along the stream and paid a fine under the Litterbug Law.

—Norman W. Sickles, Warden, Berks County

Three in One

April 19, 1960, it seems a certain Sgt. Edward Strike of the Mount Carmel Police Department, caught a 21-inch brook trout shortly after our crew stocked Fishing Creek. Upon cleaning his proud catch, he discovered a 7-inch and an 8-inch



trout in his tummy. This fish evidently enjoyed his company on the ride from Bellefonte to Fishing Creek.

—Charles C. Litwhiler, Warden,
Columbia, Montour and Northumberland Counties

At the Crack of the Gun!

The opening day of trout season in Warren County brought out the largest number of fishermen I have ever seen hereabouts. Being "no school day" it was enticing to many boys and girls of all ages. They ushered in the season with the old timers. One pool on the Farnsworth Run not over thirty feet square was surrounded by eighteen fishermen at 5:00 a.m. Each one oblivious to the other.

—Kenneth G. Corey, Warden, Warren County

Lake Erie Tackle Busters

Crooked Creek in Erie County, along with other tributary streams leading into Lake Erie in Pennsylvania have been producing some fine rainbows that have come in from the Lake to spawn. The largest reported is an eight-pounder. Several fishermen have hooked these fighters and ended up with a straightened out hook or a broken line but enjoyed the thrill of battling with them. The most recent report is a seven-pounder caught by Pete English of Lake City.

—Norman E. Ely, Warden, Erie County

Rainbow and a Pot of Gold!

While stream patrolling in Pike County accompanied by Supervisor Fleeger, we were approaching the stream area when it started to rain very hard. The rain subsided as we got closer and a rainbow was observed. The end of the rainbow seemed to be right on top of a parked car. Upon searching the auto-



mobile, we found two men with their legal limit of trout and a plastic bag containing fifteen more trout under the front seat. These men paid a total of \$150 in fines.

—Joseph Bartley, Warden, Pike County

Fish by the Thousands

On Sunday, April 24, 1960, we drained Egleman's Reservoir with the aid of the sportsmen in this locality and moved approximately 20,000 fish with bass ranging up to five pounds to other waters of the county. This is an abandoned reservoir of Reading and is set up with the Izaak Walton League as a nursery area. Every two years, this lake is drained and I select many fine bluegill, sunfish and largemouthed bass for stocking in public fishing waters. This project has become quite popular and we have a very large turnout who witness the removal of these fish.

—Norman W. Sickles, Warden, Berks County

The Trek Began Early

While going north on Route 545 out of Huntingdon about 4:00 a.m. on the first day of trout season there was a steady stream of cars and also a steady stream of youngsters on bikes. These youngsters caught a great many trout on the first day. Most of them are 12 to 16 years old and are equipped with good tackle and can really take trout.

—Richard Owens, Warden, Huntingdon and Mifflin Counties

A Grand Opening

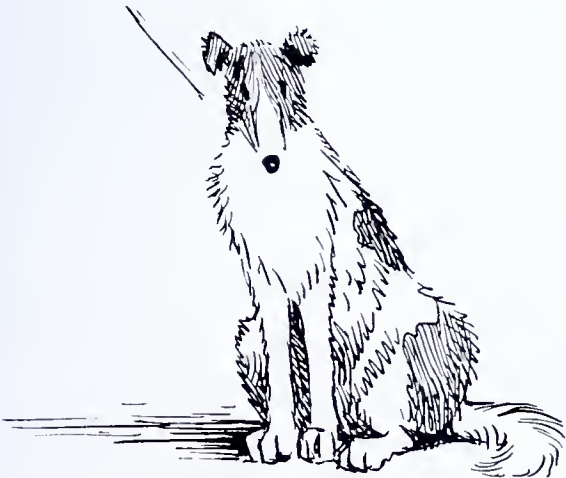
April 16 was one of the finest days for the opening of trout season that Tioga County has witnessed in the past twenty years. Weather and streams were perfect. Catch was about normal. Early morning fishermen did all right. So many fishermen along the streams and the water clear that the trout were spooked and did not bite too well in the afternoon. Everybody seemed to enjoy themselves although some came home empty.

—Leland E. Cloos, Warden, Tioga County

Quick to Correct Its Error

While driving along Cumberland Creek recently I saw a collie dog come out of a barn with a lamb in its mouth. The lamb was about one-third the size of the dog. The dog ran down the road about two hundred feet and I blew the horn. The dog stopped, turned around and came back still carrying the lamb and went into the barn with it. The lamb was dead.

LAMBS IS FISH?!



I stopped the next day and told the farmer and asked him if the dog killed the lamb. He said it didn't. The lamb died a day or two before. When I blew the horn the dog seemed to realize that he was doing something wrong. He seemed to know that he was not supposed to touch any sheep either dead or alive.

—Leland E. Cloos, Warden, Tioga County

Seeing Is Believing

I assisted the fishery manager a few times in lifting his nets on Conneaut Lake. I was very much surprised at the number and size of the fish that were in the nets. If a good many fishermen could have seen this I know there would be quite a few crappie and bluegill fishermen around the Lake this summer.

—Raymond Hoover, Warden, Crawford County

Buck Fever or Trout Fever!

While on patrol along Spring Creek, I observed a fisherman dash for his rod which was nearby and give it a terrific jerk. The action that followed indicated that he had a nice fish on, but it developed that he had hooked two trout. He was using two hooks on his line at the same time. When he excitedly brought them to the water's edge, he put one in his basket and

THAT'S FUNNY — I THOUGHT
I HAD TWO OF 'EM!



threw the other back into the water. When asked why he did this he replied dumbfoundedly, "I dunno." I have heard of hunters and the well known "buck fever" but this is the first fisherman I have heard of with a case of "trout fever."

—Paul Antolosky, Warden, Centre County

A Good Report from Potter

On the opening day of trout season I worked the East Fork Creek, a tributary to First Fork of Sinnemahoning. First Fork Creek is one of the fall stocked streams in Potter County. We have three fall stocked streams in Potter County, East Fork Creek, Mill Creek and Genesee Fork of Pine Creek. On all three streams which are being checked by Fish Commission personnel, the fall stocked brown trout catch was higher than the pre-season stocked fish. This run true the first four days of the season. Also brown trout stocked in the fall of 1958 were showing up among some of the catches.

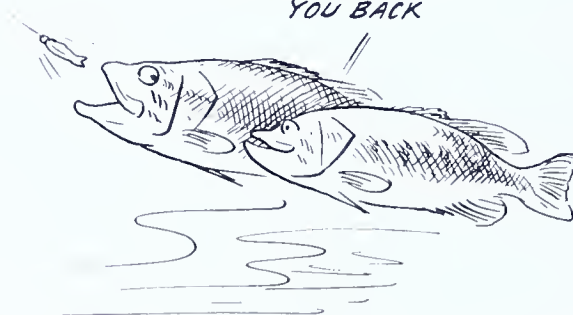
Sportsmen are showing an interest in future fishing for Pennsylvania. To date I have had two tags turned in to me that were taken from large trout. One tag was turned in by Paul Cimino, taken from a 20-inch brown trout caught in Pine Creek. Another tag was turned in by Gene Clark, taken from a 20-inch brown trout caught in the same Pine Creek. The largest trout reported was a brown trout taken from Pine Creek near Galeton by Robert Giantomasi of Elkland. This trout was 25 inches long and weighed 5 pounds.

—Kenneth Aley, Warden, Potter County

We'll Be Back!

Deputy Game Protector Blake Martin reported to me that while patrolling the Lackawaxen Creek on April 30, 1960, he observed a fisherman having a tough battle with a fish. When the fish was landed it turned out to be a nice bass. Martin checked the fisherman and he was informed that he and his

COME ON, GRAB IT—
THEY HAVE TO PUT
YOU BACK



two buddies were leaving the stream because all they had been catching was bass and there was no use catching them this time of year. They plan to come back in bass season.

—Joseph Bartley, Warden, Pike County

Like Father, Like Son

I was checking a fisherman's minnow bucket one day and found it contained 43 minnows. I asked the man if he couldn't count and he informed me that he only went to the third grade in school. He told me that his pappy was in the fourth grade and he didn't want to get in the same room with his pappy.

—Clifton E. Iman, Warden, Butler and Beaver Counties

A Remarkable Survival!

When the April flood waters of Loyalsock Creek and the West Branch of the Susquehanna River receded on April 8, it left thousands of fish stranded in a flooded cornfield. In the removal of these fish it was interesting to note that although Loyalsock Creek had received its full pre-season trout stocking prior to the flood, not a single trout was found in the flooded area.

—Lee F. Shortess, Warden, Lycoming County

One for the Book

Casting for trout in the Schuylkill River? Yes indeed, visiting anglers were seen whipping the Schuylkill River between Schuylkill Haven and Pottsville just below the "Indian Head" for trout. There are no trout in that stretch of water. "You'll have to wait until the cleanup of the Schuylkill River is completed," I yelled to them. The river at this point is heavy with pollution and no trout have been caught for the past 70 years or more.

—Anthony J. Lech, Warden, Schuylkill County

There Was No Time to Lose

Twenty students of George Miller's vo-ag class of the Broekway Joint High School assisted this spring in stocking the North Fork Creek, Jefferson County, with trout. Their youthful vigor and enthusiasm had the stream stocked quite uniformly in a very short time. Appearing to work the hardest was the man atop the truck filling the buckets. Actually they came back faster than he could handle them.

—Dean R. Davis, Warden, Jefferson County

Give Everybody a Break

The New Milford Rod and Gun Club has posted a small portion of Harmony Creek, Susquehanna County (about 200 feet), where U. S. Route 11 crosses the stream, with signs reading as follows: "Please save fishing between these signs for warriors under 16 and over 70."

This is one of the ways in which the New Milford sportsmen have been helping the youngsters and oldsters to better fishing hereabouts for the past several years.

—G. Max Noll, Warden, Susquehanna County

In or Out of the Water—

Big Fish Eat the Little Ones

While stocking Wolflick Run in Elk County, I noted in one bucket a large brook trout seemingly in distress. Its condition did not improve when placed in the stream and upon examination a fish's tail was noted sticking out of its mouth. You can bet I was surprised when I pulled out a 7½-inch brook trout attached to that tail. The Fish Code has no provision for this kind of a "fish hog."

—Bernard Ambrose, Warden, Elk County

A Prize Winner

A 22¼-inch long smallmouthed black bass, with a girth of 14¼ inches that weighed 5½ lbs. was the envy of many entries in the Lehigh County Fish and Game Protective Association's 1959 fishing contest.

Harold Merkle of Allentown hooked the prize winner, while fishing near Shawnee-on-the-Delaware last year.

—Harvey Neff, Warden, Lehigh County

That's the Litterbug Law

Five fishermen drinking beer from cans—one of them threw his empty can in back of him. He was told by another member of his party "pick up that can. My neighbor was fishing here last year and did that same thing and was arrested and fined \$20." All of the cans went back to their car and into the original box.

—Joseph E. Bartley, Warden, Pike County

Too Much to Swallow!

A Hanover lad camping at Haldeman Ponds near Hanover caught two trout on the first day of the season. These trout were fastened to his chain stringer and left in the pond overnight. To his surprise the next morning he had one dead water snake about three feet long and one trout. The snake had swallowed the trout along with the clasp on the stringer but found the chain too much to swallow.

—Paul Martin, Jr., Warden, York County

Neither Ice nor Snow—!

Opening day of trout fishing on Lake Lorain in Wayne County was most unusual. It was the first time I ever saw anglers use boats to fish through holes in the ice.

At 5:00 a.m. opening morning of trout season men took boats from the top of cars and trailers and went out on the lake on the ice. They parked the boats and cut holes, set up tip-ups and caught fine catches of rainbow and brook trout. I overheard one man remark that if the ice melted at least the boat would get them back to shore.

—Harland F. Reynolds, Warden, Wayne County



ACROSS THE NATION

Ok's Water Supply Fishing

Last year, the House Committee on Appropriations of the 86th Congress requested the U. S. Public Health Service to make a thorough study of environmental health problems and report back to the committee.

In one passage from a detailed statement, the Surgeon General made this significant point:

In community planning, requirements for recreation areas and their relationship to community living as a whole are matters of concern to health personnel. For example the use of domestic power supply reservoirs for fishing and other recreational purposes is feasible if the public is willing to pay the price of necessary protection.

Missouri Fee Trout Areas

The Missouri Conservation Commission has experienced an average annual increase of 23 per cent in its sale of trout tags required on the state's four trout management fee areas. There were about 25,000 fishermen when the first season opened in 1949. However, 139,041 tagged purchasing fishermen used the areas last year. This increased use and accompanying revenue resulted in the release of 234,000 pounds of trout, one-half pound or larger, in the four areas in 1959.

Arkansas Rough Fish Harvest

A simple liberalization of fishing regulations designed as a conservation measure governing capture of rough fishes in certain Arkansas waters has opened the way there for the growth of bow fishing, gigging and underwater spear fishing.

The Arkansas Commission has made it legal for license holders to take rough fish the year around between sunrise and

sunset each day, with a long bow, gig and/or spear, including the use of skin diving equipment from these selected waters. All other restrictions remain in effect.

The species most involved are earp, buffalo, grindle, gar, drum, redhorse and suckers. Catfish are specifically excluded. If results from the plan prove favorable as expected, the Commission may later extend the activities to other waters.

Rough Fish Controlled

The main idea behind rough fish control program of state conservation departments is to reduce competition for food and space to favor the growth and production of desired sport fish.

In 1954 the Wisconsin Conservation Department began a ten-year program of rough fish removal on 138,000-acre Lake Winnebago, using seining crews. In five years more than 20 million pounds of sheepshead have been removed. Although no firm conclusions can be drawn on results to date, accurate records of every net lifted in 1959 show the following population changes as compared to 1958: Walleyes, up 43 per cent; sauger, up 52 per cent; white bass, up 78 per cent; perch, up 45 per cent.

Field Recognition

Many state conservation agencies require their personnel to wear some kind of uniform or shoulder patches for ready public identification in the field, in a move to improve public relations. The Texas Game and Fish Commission has gone one step further and furnishes distinctive shoulder patches to its employees which clearly indicate the various types of duties each performs. It's accomplished by designative wording attached to the top of the patch, i.e., "Fish Biologist," "Engineer," "Fish Culturist," "Education," etc.

Cycle

*Ash to ash and dust to dust,
Circling universe in trust,
Rotted tree to forest fir,
Things that are from things that were,
Drop of rain to surging sea,
Things that are to things to be.
Rivulets from mountain snow,
Seas from rivers, ebb from flow,
Torrents from a trickling stream,
Things not really what they seem,
Fury caught in crystal stem
Finds its way to sea again.*

RODELLO HUNTER

Pine Creek Produces Big Brownie



It was just one hour after Willard W. Wilson, of Galeton, R. D., hooked into the huge brown trout with which he is pictured above, that he slipped the net under it. Mr. Wilson was fishing with wet flies when the trout struck a No. 12 hook in water about three feet deep. Alone when the brownie hit his fly, he played the monster up and down the stream, gently keeping pressure on his line until his quarry had tired and could be led into the net.

—Enterprise Photo

Trailer Tips

Maybe it's the urge to get up and go places. Maybe it's some fabulous fishin' you've heard about a few lakes down the highway.

Whatever the reason, there's a good chance you're one of thousands who are adding a boat trailer to their equipment this spring.

If so, study these simple tips on safe, comfortable trailering from the Mercury outboard people, to help you get the most from your amphibian adventures.

Hitch: For best security, bolt your hitch to the frame of the car, not the bumper. Add a safety chain, just in case of hitch failure.

Lights: State laws vary. Play it safe and meet the strictest requirements by having three sets of trailer lights—stop, tail, and directional—just as on your car.

Upkeep: Regular lubrication is important, especially for the coupling. Wheel bearings require packing more often than on your car, particularly after a dip in salt water.

Handling: There's not much to learn about going forward with a trailer behind your car. It takes just a little practice to get used to the wider turns and earlier, more gentle braking required.

Backing a trailer, however, isn't as simple. Main thing to remember is that you steer your car wheels left to make the trailer go right. It may help you to imagine that the back of your car is the front while you maneuver.

Some boaters go one better, and actually attach another hitch to their car's front bumper. This is a wonderful aid to maneuvering, and has an added advantage—it puts your rear (or power) wheels on higher, firmer ground when launching on soft, damp banks.

And if your rear wheels do slip, remember that old trick for doubling your traction—release about one-third the air from the rear tires. This will often get you rolling, and still leave you enough air to get to a filling station.

Bass feed almost constantly, but early morning and evening hours are usually considered the best times for angling.

How Big Is Big?

By **CHAUNCY K. LIVELY**

Did you ever get involved in a fishing bull session with a widely diversified group of fishermen made up of fly-fishers, pluggers, spinners and salt water enthusiasts, each avid in his own field? Invariably, as the evening wears on, the main topic turns to tales of derring-do and exploits in quest of the Big One. The trout fisherman proudly displays pictures of a fifteen-inch native brook trout which he caught in a little mountain stream, but this arouses not so much as a nod of approval from the muskie specialist who allows that a fish of that size is not much bigger than the suckers he uses to troll for muskies in October. Similarly the deep sea fisherman cannot understand what all the fuss is about when the plug caster gives a glowing account of the capture of a five-pound small-mouth taken on a quarter-ounce surface plug, light casting rod and four-pound line. Each of these four fishermen represents a separate faction and unless the fishermen of one group engage in the type of fishing of the other three they are never likely to agree on a common criterion for the Big One.

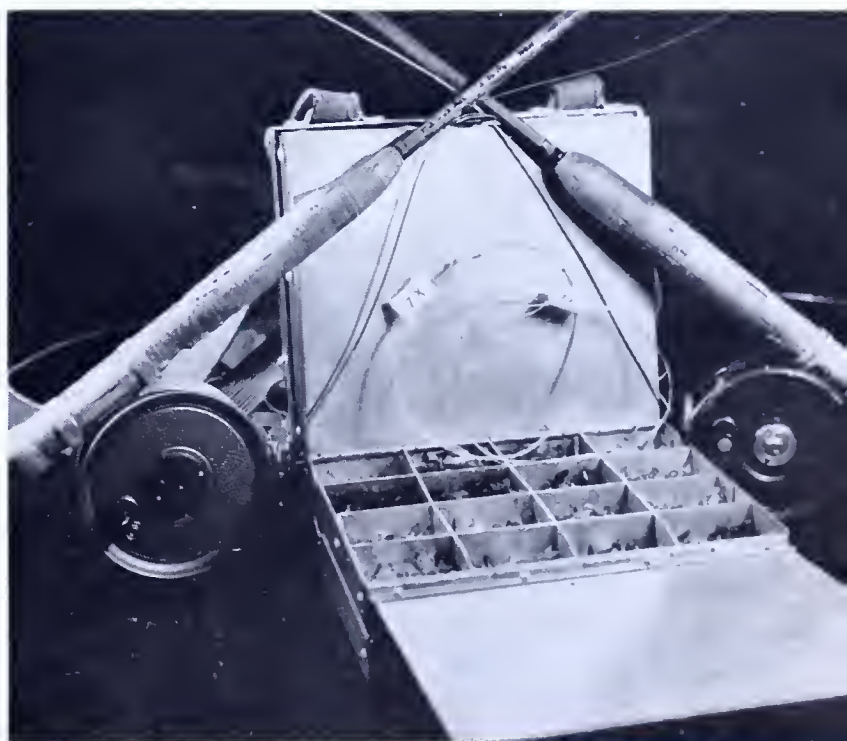
Size is a relative thing to the fisherman who fishes for many species and he is constantly changing his sights according to the kind of fish he is after and the tackle he is using. In terms of pure sport, the angler's tackle can be one of the biggest factors determining whether a given fish is small, average or large.

Every fly-rodder who likes to fish for bass with a big rod and bass bugs knows the experience of having an occasional bluegill of nearly dinner plate size take his popper. These are grand fish in their own right but somehow I can't get quite as enthusiastic about them when I'm after bigger game as when I'm fishing specifically for bluegills with a very light rod. In the other extreme, I know salmon fishermen who now and then find big sea run brook trout in the salmon rivers in such numbers that they become a nuisance when *Salmo Salar* is the prize. Yet these same chaps, being also avid trout fishermen, would regard these trout as trophy fish *if* they were taken while trout fishing with light trout tackle. Reverse either of these two situations and latch into a lunker bass when fishing for bluegills—or an Atlantic Salmon while trout fishing—and you have an entirely different psychological reaction. These become real bonus fish and their size is magnified to even greater proportions by having been taken on tackle intended for smaller quarry.

In recent years there has been a decided trend toward very light tackle in almost every category and this has resulted in some of the most satisfying fishing possible. A featherweight rod with reel and line to match—and a tiny, delicate fly attached to a leader

tapering to cobweb thinness—all go together to spell out S-P-O-R-T in golden letters. One of great joys in trout fishing stems from the fact that even the best specimens of trout can at times be taken on flies small enough to allow the use of ultra-light gear.

My pet trout fly rod is a little gem of a stick, appropriately called The Midge, which weighs in at less than an ounce and three-quarters. It almost looks like a toy when compared with most rods but it casts an HEH line to creditable distances and tames a big trout about as quickly as the heavier rods. But what I like most about my Midge is the fun I get out of playing a fish, for it transmits every movement right into my hand and I can feel the merest quiver of a fin. It allows an average fish to give a good account of himself and a really big trout feels like a whale.



LIGHT RODS, fine leaders, small flies: Ingredients of fine sport.

Paralleling the movement toward lighter rods has been the development of the marvelous new synthetic leader materials. Being strong in relation to diameter, these have made it practical to use 5x and 6x tippets as standard for most general fly-fishing for trout, and for going really light with the smallest midges, nothing could be nicer than the new 7x and 8x tippets. Of course, the flexibility and shock absorbing potential of the ultra-light rod make the use of such fine tippets feasible for, strong as they are for their fineness, there is just not much margin of safety when an 8x tippet,



LIGHT TACKLE magnifies the size of fish.

testing considerably less than a pound, is used with a stiff rod. The combination of light rod, fine leader and small fly make heavyweight contenders of any fish twelve inches or longer—and an eighteen-inch brownie can be about as much as one's blood pressure can stand.

Much has been argued pro-con on fishing contests but they have never bothered me one way or another, aside from realizing that some contests furnish important statistical information for the compilation of national and world records. In many contests the size of the fish is the only consideration and while this is interesting, per se, it doesn't prove much when you consider what a tremendous role luck can play in the capture of a really big fish. About fourteen or fifteen years ago one of the national outdoor magazines sponsored a monthly fishing contest that really made some sense. The entries were weighed and measured as usual but in addition, the angler was required to certify as to the strength of the line or leader used. The weight of the fish in pounds was divided by the strength of the line or leader and the factor arrived at was directly related to the angler's skill. Thus, a five-pound rainbow taken on a one-pound tippet rated a factor of 5, whereas a twenty-pound pike taken on a twenty-pound line would yield a rating of only 1. It was interesting to note that often the heaviest fish rated last place.

Once, while browsing in a Pittsburgh sporting goods store, a friend and I watched a middle aged man of obvious means select the biggest salt water boat reel in the store—a huge affair of the type generally used for giant marlin. Having approved the reel, he instructed the clerk to fill it with the strongest line he had—preferably testing one hundred pounds or more. The clerk said he had nothing in stock that would come close to that strength and tactfully suggested that a somewhat lighter line might serve his purpose. The

man leveled a glare at the clerk. "Not on your life! Where I fish in Florida the fish come big—up to twenty pounds or more—and when I hook one that size I'm going to make sure I get him into the boat."

My friend, who had been standing nearby with an ear cocked to the conversation, slyly winked at the clerk and lifted a coil of nylon anchor rope from a peg on the wall. This he placed on the counter before the customer and suggested that maybe here was a line that would suit him. Our hero inspected the rope with a discerning eye. "This is perfect!" Then he added ruefully: "If only I could find a reel big enough to hold this stuff." Sportsman? For all the sport this man got out of his fishing he might well have used a power winch.

The only real limitation on the use of ultra-light tackle is the casting job it must do. Naturally, it isn't practical to try to cast a large bass bug or a heavy streamer with a rod that uses an HEH line. However, our Pennsylvania trout fishing favors the use of the light outfit to the extent that it can be used to advantage most of the time. On our trout streams it rarely is necessary—or desirable—to cast beyond fifty or sixty feet. Generally the brownie rising steadily against the far bank can be taken more readily through the medium of some judicious wading and the careful presentation of the fly on a short line than by casting across two or three currents as is often the temptation.

Weedy streams and snag infested pools sometimes present problems in landing heavy fish on light gear. But then, don't these conditions become problems with almost any gear? I think far too much emphasis has been placed on "giving the butt" to the fish in a situation like this; too much pressure can make a big fish go berserk and when this happens something is bound to break.

Some years ago, when an eight-and-a-half-foot fly rod was the standard trout rod and an eight-footer was considered a "little rod," I watched the capture of a particularly fine brown trout, taken with such finesse that I've never forgotten the incident.

The locale was Spring Creek in June and a hatch of little blue quills was bringing some good fish to the surface. While prospecting for rises we came upon a red headed chap casting a beautiful line with a light seven-foot rod, and we stopped beside the pool to watch. A narrow pocket of deep water in midstream, bounded by a rock island on one side and a weed bed on the other, marked the position of a spectacular rise, soon followed by another. It was a difficult place to reach but the angler cast his leader over the rock island and the fly was taken on the first float. Immediately his rod was raised high to clear the leader of the rocks and he gently but skillfully led the big trout downstream below the island and through channels between the weeds until he was able to net him in a shallow bay.

The action took perhaps twenty minutes from start

to finish and the angler was half apologetic for having taken his time playing the fish but he said he was using a size 18 fly and didn't dare force things. The trout was a beautifully colored brown of nearly two feet in length and truly a Big One, especially so for having been taken on light tackle under tough conditions.

I'm certain that this fish never would have been landed if the angler had tried to force a quick finish, for there were too many hazards present and a maddened fish could easily have dived under a weed bed and broken free. Here was one occasion when the light touch really paid off.

Going light has many advantages. The little rods allow you to get in under the overhanging brush

where a long rod would bring nothing but grief. With fine leaders and small flies you work more carefully and this pays big dividends on the hard fished streams where the trout are accustomed to seeing coarse terminal gear floated over them day in and day out. But best of all, a ten-inch rainbow can put a good bend in the rod and make the reel sing—and after all, isn't this the kind of fun we're after? The degree of sport which a fish gives you is the true measure of his size, and a light outfit can increase the sport quotient manyfold.

Trout are such wonderfully satisfactory fish. Now if I could just figure out a way to hook a big Allegheny River smallmouth on a size 18 dry fly with my Midge.



Day's end—and a prize worth keeping.

—Massachusetts Wildlife



"Keep: A Firm Grip on the Handle!"

Pennsylvania Angler

July 1960





THE PENNSYLVANIA ANGLER is essentially and fundamentally seeking to bring a conservation message to all who will read, ponder and become inspired to join in the struggle to preserve not only the sport of angling but everything that is clean and beautiful in our Outdoor Pennsylvania.



We are vitally interested in the wise use, conservation and management of not only fish and fishing but the loveliest wildflower along a meadow brook, the great willow along the bank of a stream, the intimate whistle of the bobwhite, the delightful song of the spring peeper in the evening. The multitude of creatures of wood, field and stream directly and indirectly add much to the pleasure and joy of the angler for do they not gladden his work-weary eye; give sweet melody and song to soothe his ear still ringing with the din of city noise; provide cool, refreshing shade to rest and restore his tired, sagging spirit?



So it is all things of the outdoors serves man by conserving his reason, his balance, restoring his self respect and a respect for the lives of others, . . . yes, even for the tiny life of a fish. It is here a man must learn the true meaning of sportsmanship, restrain his lust to kill just for the sake of killing.

There is no honor in how large, how many fish we kill but the moral code of ethics in sportsmanship as we know it today, tolerates a kill only by the most skillful means. This does not imply an angler fitted with only an old rod, a blob of worms and a 12-ounce sinker is a brute while the dry fly fisherman is a true sportsman and kindly soul, for there are many instances to support the opposite.



When the angler comes to respect the life of a trout, bass or any other creature of the outdoors he has gained much in his search for truth in sportsmanship. When he has learned to hold high in the great scheme of Nature the LEAST of all living things, he will hold in higher esteem and respect the lives of his fellow men.

—G.W.F.

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BASS

flee for flies



By DICK FORTNEY

OFFER a smallmouth bass the proper combination of fur and feathers, and he'll quickly prove a point:

Bass can be taken consistently on artificial flies.

Bass fishermen have relied on such baits as minnows, worms, stone-catfish, hellgrammites, and crayfish or on such lures as plugs, spinners, and spoons so much and so long that many have never even given a thought to trying flies.

Years ago it was my pleasure to meet and fish with an old river rat—the words are used respectfully—who raised hob with the bass in the north branch of the Susquehanna River.

He would not have been caught dead with a bucket of bait or a casting rod and box of plugs.

Instead, he tied large-winged wet flies, hooked them up with small spinners, and trolled them in the river. With a fly rod, he would make a long cast past the rear of his boat, drop the rod from bow to stern across the seats, and then row around until a bass took the fly and spinner combination.

In the middle seat of the boat he drove two nails close together; he placed the rod with the reel snug against the nails, so that a hard strike would not yank his rod over the back end of the boat.

The old fellow caught his share of river bass—and then some, although being a good conservationist he never killed more than he wanted for a meal or two.

The fly and spinner combination is deadly for smallmouths. It seems the spinner's glitter attracts the fish, and the fly gives him something to strike. This lure can be worked around rocks, ledges, sunken logs, or other obstructions in a stream pool. It can be made to dart and jump through a fairly deep riffle. It can be retrieved across a swift, flat glide.

A special hot spot for fly and spinner is that point in the stream where a brawling riffle flattens out to form the head of a pool. A good line of retrieve is to cast into the quiet water and work the lure upstream into the edge of the riffle, making it appear to be a minnow venturing close to fast water in its search for food.

Fishing for bass with a fly and spinner often will pay a special dividend if there happen to be pickerel in the stream.

I remember one afternoon years ago, when Wyalusing Creek, in Bradford County, was at its prime, casting a spinner into a dark pocket where the water had undercut the roots of a large tree. The first cast brought a hard strike from a two-foot-long pickerel. Half a dozen more casts were rewarded with three more pickerel of about the same length, all taken from that very same spot.

Bass fishing with floating, surface lures also is exciting sport—but there are certain limitations. The action is the liveliest if the bass are actively surface feeding. Bass are not so likely to rise to a floating fly as are trout unless they are feeding.

Occasionally bass will take the same dry flies that are used for trout, as any fisherman has learned by angling a stream in which both trout and bass are found. But larger and more colorful dry flies are better bass lures. They may be in combinations of red, yellow, white, and black. They should have fat bodies, long tails, and a generous quantity of hackle.

An old personal favorite is a combination of gray deer hair body with tail and hackles of brown, white, or black. The body should be constructed about as thick as a pencil. The hackle should fan out back of the eye of the fly to about the diameter of a five-cent piece.

This particular fly is an excellent floater, because of the deer hair body and generous hackle, and it will ride on deep riffles and on fast water, where bass like to surface-feed near the end of a hot summer day.

Bucktails and streamers also are effective bass lures, since they imitate minnows, and bass like minnows even more than trout. These lures should be used in much the same manner as the fly and spinner, but as a matter of fact the angler will soon learn that they are even better for imitating the darting and erratic movements of stream minnows.

Large wet flies are worth trying in bass angling,

although they are not as effective when used alone as when they are combined with a spinner. The wet fly is used much the same in bass angling as in fishing for trout, and any pattern of wet fly that is effective for trout will also attract smallmouths.

There remains one type of fly fishing that is distinctly for bass, not borrowed from trout angling, as are most of the methods and lures described up to this point.

This is the use of surface bass bugs.

For the purposes of this discussion, I'm ruling out bass bugs made with plastic, cork, or wooden bodies. They are adorned with wings, whiskers, tails, and legs, depending on the pattern, but are closer to plugs than flies.

The bass bugs with which we are concerned are those lures made with deer-hair bodies and wings, tails, or legs of deer hair or some other type of animal hair or of feathers. One word of caution . . . if you make your own bass bugs, use the body hair of deer for the bodies. This hair is hollow and will break and fan out as it is tied tightly to the hook. Hair from a deer tail is solid and more silky, unsuitable for bass bug bodies.

Bass bugs should be made in several sizes, ranging from small lures tied on No. 8 hooks to big fellows that have the proportions of baby mice. Natural gray and brown are excellent body colors. Black bodies also are good, and there are times when bass will strike a white bass bug.

The wings and tail can be the same color as the body, or they can provide a contrast—for example, white wings and tail with a brown body; or brown

wings and tail with a black body. (Ye Ed. likes brown body, yellow wings and tail).

The effectiveness of a bass bug lies in the fact it imitates a large insect, but it is essential for the angler to do two things to put one of these lures to its best use:

1. He must give the bug an appearance of life as it floats, for bass are not much interested in dead insects. This is done by gentle twitches of the rod tip or light jerks on the line. In our hard-fished waters the angler must be careful not to overdo this action. The bug should be made to do no more than quiver or wobble on the surface. And it should be allowed to float motionless for a minute or so between each twitch of the rod or pull on the line.

2. The bug must be cast into spots where bass know by instinct and habit that natural insects are likely to appear. One of the best spots is along the shore of a stream, where a tree hangs out over the water. Another is a shoreline heavily bordered by high vegetation. Still another is a weed bed—and this is particularly true in lakes and ponds—where vegetation attracts insects.

To be fair, there is one drawback in bass bug angling. It is most effective in the dark, when most anglers dislike fishing, and it is the most difficult in the hours of broad daylight, when long and accurate casts are necessary to put the lure within reach of a bass without frightening it.

I'll suggest a compromise. Try bass bugs in that period between sunset and full darkness.

But no matter when you prefer, try them. Fly fishing for bass is not complete without use of bass bugs.





in the **D**ark *of the* **N**ight

AMONG those followers of the gentle sport of Father Walton, is a small group of individualists who prefer to fish at night. Contrary to the implications of the Good Book that says, "Men love darkness rather than light because their ways are evil," I have found the confirmed nocturnal angler to be a quiet, self-sufficient, sportsman and gentleman. He is as a rule conservation-minded with a calm persistence that sets him apart from his fellows. I only suspect, mind you, that this group captures more fish and kills less than their daytime counterparts. I suspect also they account for most of the trophy trout taken during any season.

Not all anglers are suited by temperament to enjoy night angling. It is a solo performance even though you may have a companion within hailing distance. Crowds have even less place in the darkness than during daylight hours. It is true they sometimes gather around a friendly driftwood fire and tend night lines

(A primer for the nocturnal trout angler)

By **ALBERT G. SHIMMEL**

but even here care must be exercised to prevent accidents.

There has come down from the distant past a feeling of uneasiness that increases as the light fades. Some men never overcome this dread sufficiently to enjoy angling at night. There is real danger in the accidental fall, the contact with poisonous snakes that are active on warm nights, and the unexpected terrifying plunge into deep water. These factors can be eliminated by being a bit cautious and need not interfere with the sport, indeed these hazards add the spice of adventure.

Try night fishing! You will either become an enthusiast or lose interest after a few trials. One wise old timer, after a daylight brush with a crowd that infested a freshly stocked stream confessed, "I was scared of being tromped to death in the rush." You are assured of plenty of elbow room after dark. If you can find a veteran, willing to instruct you in the art, you are fortunate indeed.

Most predatory creatures prefer to feed in dim light. They find food much easier to capture and are more confident in their ability to escape their enemies. If you examine the stream bed with a good light, you will find it literally alive with fish food. Nymphs, that hide by day, are creeping about. Crayfish and minnows abound. Occasionally your light will catch the dim outline of a foraging trout. On a humid summer night you can hear fish working in water so shallow that at times their dorsal fins break the surface. Surface food shows plainly against the sky and is gathered easily.

Night angling requires certain knowledge that comes only by practice and observation. The angler must have such mastery of his tackle that its use is almost mechanical. There is nothing so discouraging as a fly that refuses to fall correctly or a backcast that cannot be kept out of the trees. A tangled spinning line presents untold difficulties at night. The angler must have such a thorough knowledge of that portion of the stream he intends to fish he can move about quietly without the aid of a light. When tackle must be adjusted it is well to move away from the stream so that the light will not disturb the fish. Wading is taboo and if necessary it requires a waiting period of at least a full quarter hour before the fish will resume their feeding. Control over nervous reactions as well as a sense of humor are desirable.

Most daytime lures and techniques will produce as well at night. As a rule night lures are effective in larger sizes and darker colors and generally produce larger fish. A pair of wet flies, size eight and larger and streamers of exaggerated size fished deep and slow, will prove to be killers. A friend of mine once removed a hook-jawed old brown from a beautiful pool that had produced little for several years because he either ate or drove away any other trout that ventured close. The method was simple. My friend devised a tandem streamer full seven inches in length, and, at dusk one evening, drifted it deep along the undercut. We think the big brute mistook the oversized streamer for another fish and struck viciously to drive it away or kill. There was no excuse for this strike from the standpoint of hunger as its stomach contained, a six inch trout, a four inch chub, three black-nosed dace and a large crayfish.

When the May-beetles and the larger moths fly, trout turn their attention toward the surface. The insects are silhouetted against the sky as the trout views them from below. The gathering of these insects as they lie awash on the surface is easy. A method used during the Caddis Hatch on the trout rivers of Michigan and transplanted to Pennsylvania is both simple and effective. A pair of large size, bushy dry

flies or a pair of clipped hair bass bugs are tied to a heavy leader about a yard apart. These are cast across a pool and then slowly retrieved. They are moved fast enough to create a drag. In daylight this would probably scare the trout right out of the pool but at night it is a killing technique. The heavy leader is a necessary part of the equipment as these big lures attract large trout that strike with such explosive suddenness that a light rig would surely be broken. Once the hook is set these big fellows make a determined run for the nearest barrier. The angler loses as often as he wins even with heavy terminal tackle.

The spinning enthusiast has a wide scope for his favored tools. A surprise came to me while fishing a river that contained both trout and bass. The shadow of the mountain was reflected in the river and made a line where the light of the sky met it. Trout hit each plug just as it emerged from the shadow to the light. We had a fast and furious night until the river darkened but not a bass did we find. The next evening the bass struck and we caught but one trout.

The surface lures that cause a great commotion seem to be favored by bass while the trout seem to prefer those that cause less disturbance. After much experimenting I have found that a small popper, fished so slowly it won't make a sound yet creates a slight wake on the surface, will bring up trout with considerable regularity. A sub-surface plug that wobbles along slowly brings many strikes that are mere bumps compared to the forceful strike at a surface lure. Hooks on underwater plugs must be examined frequently and honed to needle sharpness or many strikes will not result in fish. This underwater fishing is even more hazardous to lures than daytime fishing.

The fly rod enthusiast will find a big bug of clipped deer hair fished as a dry fly, is perhaps the most successful surface lure. I have even fished with hair frogs with good success. A big rainbow with the legs of a hair frog decorating his upper lip after the manner of a handle-bar mustache is comic.

Regular dry flies, wet flies and natural baits all take trout after night. A minnow expert of my acquaintance spins them singly on a wire but more often drifts



them in pairs into the deep pools. His success is phenomenal.

Trout have a habit of following a slow moving surface lure into the shallows then striking with unexpected suddenness just as the angler is about to lift his lure for another cast. The noise, the flying water as the fish plunges for the depths have a tendency to cause the fish to escape before the battle has begun. I once investigated such a commotion involving a nice trout and a tyro angler who was having his first try at night fishing. The trout was gone. My friend was sitting on the bank visibly shaken trying to hold his light steady enough to take inventory of his broken terminal tackle. His remarks were pointed, unprintable exclamations.

One dark night the silence was broken only by the splash of feeding trout and the calling of a pair of young owls trying their adolescent voices. There was a heavy oppressiveness about the air that usually precedes a night storm. Indeed there were faint flashes behind the distant mountain. The trout were coy, my patience was at a low ebb and I was about to give up and go home. At such a time the senses seem to sharpen to a razor alertness. Suddenly I imagined I heard music. I shook myself mentally and listened again. There was no mistake. I had thought myself alone, the nearest road a good half mile away, the nearest dwelling even farther. I flashed my light in the direction of the sound and startled another angler who was intent on his fishing. He confessed he could

not persuade his friends to share his night excursions but got along very well when he carried his small portable radio for company.

I could appreciate the experience one of my friends had early one morning. He had been fishing a long pool with a friend, and as it neared dawn my friend sat on a boulder near the water's edge to rest. Hearing the sound of what he believed to be his partner he flashed his light in that direction. The light fell on a bear that was crossing the river just a few yards away. That experience probably set records for speed of departure in both families.

Night catches have included such diverse forms as bats, birds and snakes. A friend once broke a beautiful rod capturing a green heron, and played the maddest water snake on record after he had hooked it in the tail with a fly. I lost my terminal tackle one night when I accidentally hooked a beaver that swam too close.

If your insurance is paid ahead; if you have a good heart; if you are at peace with the world and your conscience; if you can get your wife to consent to your idle traipsing along the river at night; (Women can be so misunderstanding in such matters!) then by all means try night fishing. If you persist, some morning when your fellow anglers are making preparations for a day of sport, you will arrive, sleepy-eyed from your favorite pool, with a trout of such proportions that even you will find it hard to believe. Show it to the milk man!

the little creeks . . .

Pennsylvania's unfished treasures

By **CLIFF ZUG**

Mr. Zug suggests there are **BIG** fish in **LITTLE** ponds.

Can you prove it!

NEWSPAPERS often give anglers a hint of the exciting fishing they can find in their own backyard, but few take the suggestion. Nearly every summer we read of some youngster catching a big trout or bass in a small creek we always cross on our way to fish some BIG water. Or we note in the news of an industrial plant dumping some polluted waste into a small stream near home and killing some large game fish.

Throughout the state there are thousands of warm water streams completely unfished. With no angling pressure, undercut banks for cover, the water full of minnows, hellgramites and other fish foods, the bass

and trout who live there often grow to a very respectable size.

Several advantages are offered the fisherman who spends his hours on these creeks. Transportation is usually no problem for there's generally a stream nearby. No boat, motor, gas can, trailer and other gear associated with a fishing trip is required. Just old wading sneakers or shoes, a pair of pants too poor to patch and a rod, reel, line and a few lures.

Spinning gear allows the angler to use lures in the fly rod class. The little plugs, the spinners, spoons, wobblers, etc., that have been designed for fly rods



(but always a little too heavy) are perfect on the ultra light spinning gear.

In streams that hold educated bass, trout and panfish, artificials cast by these tiny rods, with the gossamer lines, makes fools out of normally lure-shy fish.

Fishery biologists tell us 85 per cent of the food fish eat is taken below the surface. Minnows, nymphs, insect larve, are the mainstays. Ask any good fisherman the best way to take trout day in and day out and he'll most likely reply—nymphs. The same rule applies to fishing small streams.

Tie a furry nymph on a fine leader and cast this upstream and allow it to tumble back to you and you'll find the stage set for an afternoon of fishing fun. Trout, bass, sunfish and others all form in the chow line to take a crack at these lures.

For an afternoon of fishing fun, try fishing with nymphs tied on a number ten or twelve hook in a warm, winding valley stream and the amount of fish creeled will positively amaze you. Toward dusk put on a large nymph, like the Fledermouse, or the Bailey's nature nymph, dressed on number four 3XL hook. The bigger bass and trout are on the prowl then and will take these big flies readily. Huge wet flies are also effective at this time of the day.

Of course nymphs that resemble those living in the streams you fish are the best to use—but most any of the commercially tied imitations will work well.

For some really big bass and trout try fishing with the short fly rod at night on some of the creeks. Look these places over during the daylight hours and figure where you can cast without getting into trouble. For trout, big wet flies or something like the Muddler Minnow, with the head greased with line dressing to make it float, are deadly when fished near the heads of pools. Trout like to congregate where the water tumbles over the riffles.

Another fly rod lure that takes fish regularly and for many is the most satisfying to use is popping bugs. Recommending a certain size bug for small creeks is tricky. Often times a change in size of the popper will result in a definite increase in the number of strikes. Generally, bugs mounted on hooks from size six to ten are the best. Big bass, and sometimes trout, will take a very small popper. Bugs having a long shank hook will result in less missed strikes. The reason for this is simple. A long shank hook sticks out farther from the body of bug. When this type of bug sits on the water the hook hangs down and the first thing a fish hits, regardless of the direction of the strike, is the hook. Many times, using long shank hooks on the bug, the fish hook themselves before we strike in return.

Color on poppers never seems to make much difference. (Ye Ed. won't buy this). On extremely rare occasions, probably due to a specific insect hatching on the stream, a certain color will do best. These times are infrequent. Popping bugs are like women, it's the action that counts. Regardless of color, a bug fished with little natural movement will catch few fish.

A good idea is to carry a small hook hone. Popping bugs should be bounced off of rocks, logs, overhang-

ing banks and the like. This dulls the hooks and a small hone touched against each side of the point will soon make it needle sharp.

A friend of mine, Ted Bookhout, now working with the Michigan Game Commission, used to fish some of these small creeks with the flea rods. Ted is a good fisherman but on the first three occasions together he trailed me in the catch department. Procedure was to let me off downstream; he would take the car upstream to another bridge then each would work toward the other. When we met we would always take a sandwich break. On the first three trips I caught many more fish than Ted, using the same tackle and flies as he.

We talked about it and finally decided both to try fishing upstream. From then on the score stayed pretty much even.

We never fish downstream on these tiny creeks anymore. Even when we use streamers, usually slow moving made of maribou which requires little action to get movement. There are several reasons for catching more fish when wading upstream but most important I think is the fact you give warning of your approach when wading with the current.

During the warm summer months many of our trout streams are low and unfishable. Not all the trout were caught out in the spring fishing and the smarter ones have found the water farther downstream a better homesite. Seek out the spring holes in the meadow streams down in the valley often miles from the mountainous section we usually associate with trout water. The big browns and rainbows find holes in these warm streams that are cooled by underground springs. These cool spots can be discovered when wading.

If you like to fish with bait, the ultra light spinning gear is the perfect answer you've been looking for. With a line testing at one-half pound and a five foot spinning rod you can toss a small crayfish or night-crawler amazing distances. Always fish these baits upstream and only manipulate them enough to keep them tumbling along the bottom. Every local specie of fish can be taken with this rig.

Learning to cast with a flea rod (six foot fly rod) on a small meadow stream, or tossing a ultra light spinning lures on brush-infested creeks will teach you more about casting than can be imagined. A bigger trout stream or bass river offers few problems to the angler who has learned to use his tackle on these tiny streams and creeks.

Then too, let's face it. We fish all day to take a few good trout or bass. Man learns through experience. On a small creek near home he can catch panfish numbering in the hundreds and other more desirable species during an afternoon. What better way to learn lure presentation, manipulation, casting and other valuable fishing experience?

Plenty of strikes, full creeks, close to home, no interference and no costly outlay of equipment are only some of the reasons why you should investigate fishing on small creeks near home. And then, there's always the bonus of tying into a big bass or trout that has escaped to these safer and unfished waters.

Leaders . . . what they can't see won't hurt you

AS EARLY as the 15th century anglers were using a thin, invisible section of line nearest the fly in order not to frighten the fish. Horsehair was the generally accepted medium. However, on "18 March 1667" Samuel Pepys writes in his diary:

"This day Mr. Caesar told me a pretty experiment of his angling with a minikin, a gutt-string varnished over, which keeps it from swelling, and is beyond any hair for strength and smallness. The secret I like mightily."

Evidently Pepys and his contemporaries were not too well sold on the horsehair lines and leaders, for in 1676—nine years later—Charles Cotton, author of *The Universal Angler* and a close friend of Izaak Walton, made this observation: "Single hair is generally too fine, but never use more than double, for he who cannot kill a trout twenty inches long with it deserves not the name of angler."

In 1700 James Chetham inserted the advertisement reproduced here from his *Angler's Vade Mecum*. What this India Grass or India Weed was, remains open to conjecture. Perhaps, like Mr. Caesar's discovery, it may have been silkworm gut. There is some color for that assumption, for Saunders in his *Complete Fisherman* states:

"The Swiss and the Milanese and the inhabitants of the more mountainous parts of Italy are esteemed the greatest artists at trout fishing, perhaps in the world. These, they tell us, make a fine and exceedingly strong hair or line, resembling a single hair, which is drawn from the bowels of the silkworm. . . ."

Here is the first known angling reference to silkworm gut. This material was used continuously by fishermen for more than 200 years until 1939 when Du Pont introduced nylon and made it available for manufacturers of fishing lines and leaders.

The advantages of using nylon quickly spread, with the result that this material, which requires no soaking, and is as strong or stronger than gut, has now practically superseded the use of silkworm gut.

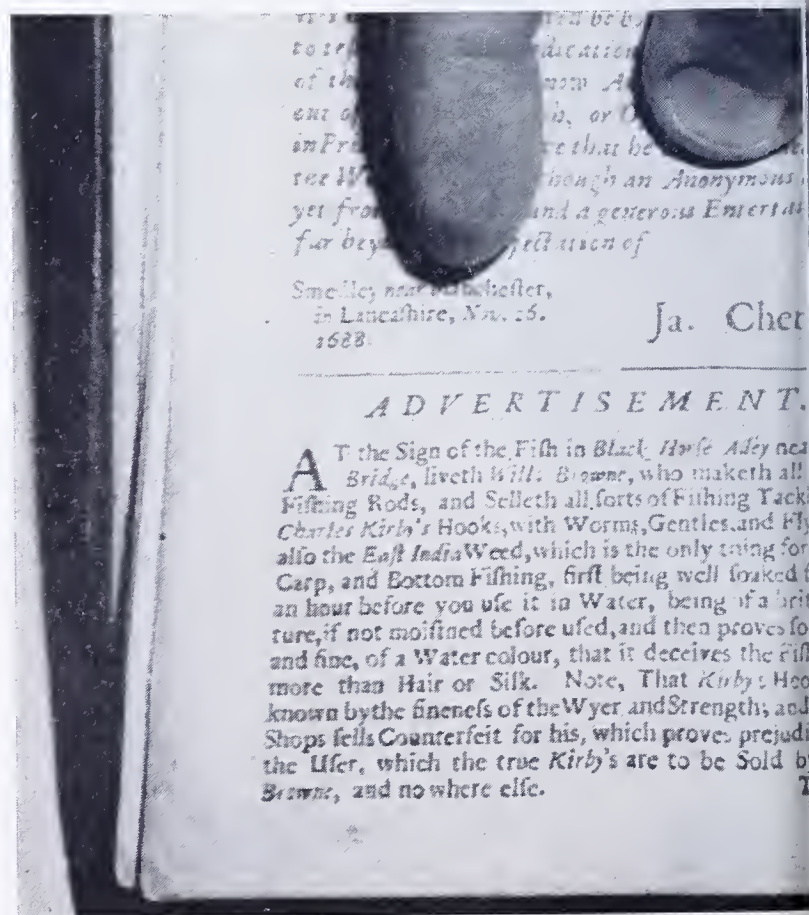
Nylon leader material is commercially available in tests ranging from one to 60 pounds, and in continuous lengths from three to 40 pounds. The light, thin, three-pound test available on the market will, no doubt, find still greater favor among strip casters, and the tournament distance fly casters, who recently became conscious of the superiority of nylon monofilament as a "shooting line." Then again it has proved a boon to the spinning fishermen who use the thinnest of lines on a fixed spool reel. Not only is light-test nylon in great favor, but the heavier material used by the surf and deep sea fishermen has also become equally popular. The monofilament line is particularly adapted to both deep and surface trolling; and anglers who

By CHARLES M. WETZEL

fish through the ice also hold it in great esteem because of its resistance to freezing.

About 200 years ago Sir Henry Wotton, English diplomat and another good friend of Izaak Walton, commended the art of angling as "a rest to his mind, a cheerer of his spirits, a diverter of sadness, a calmer of unquiet thoughts, a moderator of passions, a procurer of contentedness;" and he added that "it begat habits of peace and patience in those who practised it."

That holds true even today. So, on your next vacation, why not go fishing? Whether you wade the icy trout streams or huddle near a fire on a wind-swept frozen lake; whether you recline comfortably on a trolling boat, or stand on the beach feeling the tug of the surf pulling the sand from beneath your boots, you will enjoy the grand old sport and all the more so, because modern equipment, thanks to chemical science, includes nylon lines and leaders.



ONE of the inevitable problems that accompany a skyrocketing population is space for wholesome outdoor recreation. Only about one-hundred years ago, space was an enemy. The vast wilderness and the great prairies prevented us from going places and doing things. But the matter of space in America has assumed a new dimension in our society. The big problem is what are we going to do with more and more people, with more and more leisure time, and less and less space for each of us.

At the present time, almost fifty million mouths are added to our population each year. Probably before some of your children have passed on, the annual increase will be one hundred million.

What does this mean to an America that is rich in outdoor heritage, an America that owes its freedom and Government to the desire for freedom and not to be fenced in? It means that conservation and outdoor-minded people must gird themselves for a battle to preserve our natural resources and to protect our public lands. They must redouble their efforts at the National, State, and local levels to acquire additional public lands for outdoor recreation, hunting, and fishing.

The job is a big one! It cannot be done by Conservation Departments alone. Other conservation agencies, sportsmen groups, and community clubs must help in the effort if desired results are realized. It is time to look boldly at the future, ascertain our needs, and plan to fill these needs. We must believe that it is just as important to our national welfare to protect the naturalness of America as it is to make improved changes on our material goods or to probe the outer space with rockets to discover the possibilities they hold.

We are reaching the point of NO MORE LAND. That is certainly a new experience for America. The time has come when all land use must be planned, with unborn generations in mind, so that a balance between the interest of all the American people may be maintained. Healthy recreational facilities should have a high priority in any planning that is done.

Problem children are not developed in the Great Outdoors, along fishing streams, hunting in the fields or woods—whether hunting for wildflowers, butterflies, shells, or rabbits—and living by the good sportsman's creed. If time and effort are devoted to assuring a place for this kind of recreation and directing the steps of our youth toward it, the concern for the nation's future citizenship can be lessened in the same proportion. What is your club doing along this line? You can certainly be a great help; it may be later than you think.

The following poem by an author unknown to me beautifully expresses what I have tried to say:

An old man going down a lone highway
Came at evening cold and gray
To a chasm, vast and deep and wide
Through which was flowing a sullen tide.
The old man crossed in the twilight dim
That sullen stream had no fear for him
But he turned when he reached the other side
And built a bridge to span the tide.

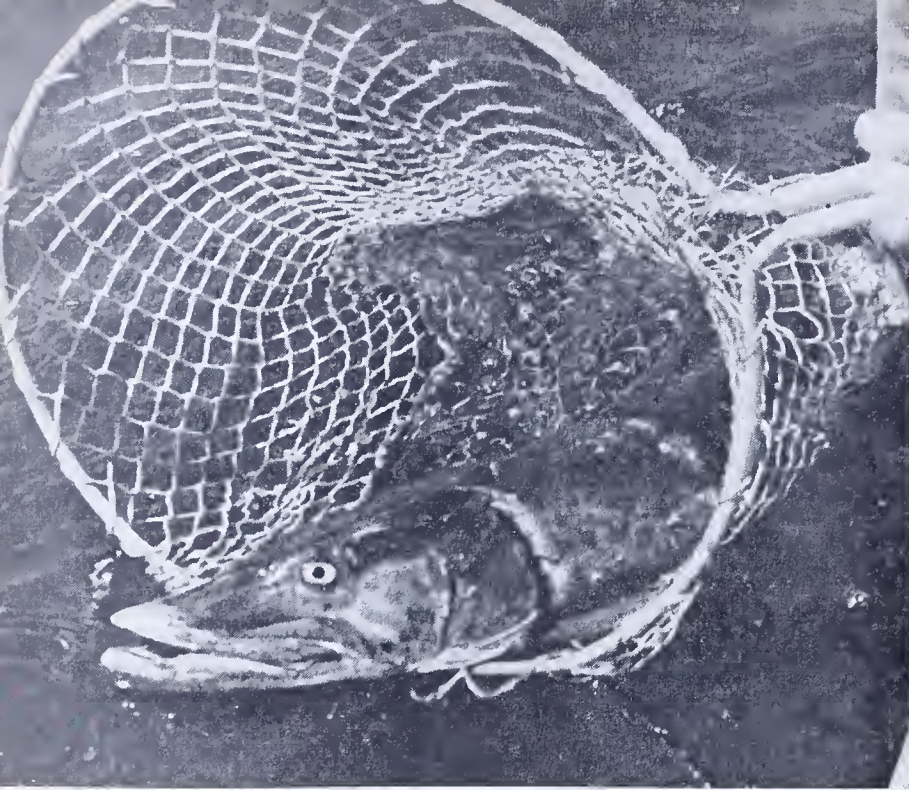
Old man, said a fellow pilgrim near
You are wasting strength in building here
Your journey will end with the ending day
You never again must pass this way
You have crossed the chasm deep and wide
Why build you the bridge at eventide?

The builder lifted his old gray head
Good friend, in the path I have come, he said
There followeth often me today
A youth whose feet must pass this way
The chasm that has been nought to me
So the fair-haired youth may a pitfall be
He too must cross in the twilight dim
Good friend, I am building the bridge for him.



No — MORE — LAND — !

By FRANK L. HAYNES



MALEVOLENT GLARE by even a beaten musky about to be netted, has given cause to novice and expert alike at the thought of being in the same boat with it.

Photo by Johnny Nickles.

some "How To" and

"What With" on

CATCHING MUSKIES

By C. ROBERT GLOVER

Conservation Education Division
Pennsylvania Fish Commission

ALL stops get pulled in the adjective and superlative departments, nor does anyone seem to mind, when one speaks or writes about muskellunge and those who fish for them. About the fish itself, in alphabetical order, are: aggressive, crafty, cunning, ferocious, fightingest, gamest, gamiest, massive, mean, pitiless, unpredictable, vicious, voracious, wiley, etc.

About the fishermen: dedicated, devoted, fanatic, nutty, patient, persevering and persistent are but a few.

Musky enthusiasts range from those who hide their enthusiasm and their fish from everyone lest they get too much company, to one individual who on an occasion when mellowed a bit further by ti martinis—two martinis, I mean—said, "‘Lunge’ are the answer to our fishing problem in Pennsylvania!"

Normally, I would allow even such a wild observation to pass without comment, but being equally uninhibited by a brace of the same I advised said enthusiast that he was "out of his mind."

I have been on his list for "banishment to Siberia" ever since. Nor have I since touched a martini. But the point is that once a man gets musky in his blood, he becomes a breed apart. And to him all other fishes become "small fry." This remains the case whether he catches one every hour, every ten hours, or hundred hours or one thousand hours.

In the book "Musky Fishing" by J. W. Jackson (reviewed in the April, 1960 issue of the Pennsylvania Angler) is this reference: "A change occurs in those who are smitten with Musky fever, they lose interest in other fishing. They show impatience when fishermen gather and the talk swings away from muskies. They become more intense. The confirmed musky fisherman, I submit, is a driving man at anything he undertakes. He's a stubborn, and a challenging man, given to asking a lot of questions in probing search for accurate answers. He's a man who is often found to be a leader. This man has steadfastness. He can take disappointment, although, in his case, it is more heartbreak, he's that consumed with the enterprise. Deep inside this guy is something that needs fulfillment, and taking a musky is one answer."

If the reader has no desire to become such a man—or woman—or is fearful that the burden imposed upon one to live up to such a reputation will be too great to bear, or has no desire to be alienated from such lesser prospects as an eight pound brown trout, a five pound smallmouth, a one pound blue gill or the like, reading of greater benefit will be found elsewhere in this issue of the Angler.

But if you wish to expose yourself to such prospects, armed with the advantage of the accumulated and acquired lore of the writer, read on. And when



AFTER 15 years of fishing Charles Dragosavic of Meadville caught this, his first musky, in Cussawago Creek. It measured 36" and weighed 10 lbs. and is certainly a few years older than son Joseph C. on daddy's knee. Meadville Times photo.

finished go back to last month's issue of the Angler for the resume of where in Pennsylvania the so-called "tiger of fresh water fishes" ranges among the waters of the Commonwealth.

It's natural that herein would our own waters be recommended. In any event, however, take heart, because your chance of taking a musky in those waters are just about as good as elsewhere in musky country whether it be Wisconsin or Minnesota or wherever. About the only concession to be made here is that the average musky taken in Pennsylvania will likely be of less proportion, than in the more reknowned musky States or Provinces.

But whether fishing for them close to home or in far-off or back-in places, the "right" tackle, methods and procedures, and the precautions and persistence remain the same, for the fisherman to have the odds in his favor.

Before going into details, it must be conceded that "right" as applied to tackle, methods and procedures does not mean that a musky cannot or will not be caught by other means. Also, the deliberate musky fishermen do not like to hear of it as its tough on the

egos some of them harbor, many muskies are caught incidental to fishing for other species. Nevertheless, what follows is a composite of recommendations by musky specialists and occasional hands at the sport, such as one B. G., who have succeeded in sharing their boats with one or more of the critters.

Tackle

Rods. While some old hands at musky fishing will stay with rods of bamboo or steel, for all practical purposes, the tubular glass rod is now "it." Good bamboo rods are not only now hard to come by, but they are expensive and require constant care. And in my book, steel rods never were worth their salt. Metal fatigue set in and they snapped. And always at the wrong time. On the other hand, rods of glass are most readily available and represent about the best rod buy since fabricated rods of any sort were first placed on the market.

As to construction, a five foot to five and one-half foot rod of stiff action gets the nod of majority musky fishermen. Rods of this type better handle the heavier lures that are engaged for this big fish. Also, a stiff rod facilitates setting the hook in a musky's really hard mouth.

Whether the handle portion is of the one or two-hand grip variety, may be left to the angler. If he is a muscular individual, the conventional single-grip style is totally adequate. For fishermen of slighter builds or whose occupations are not conducive to moulding muscles, the two-handed grip—a modification of the surf casting rod—will be found to be a great comfort.

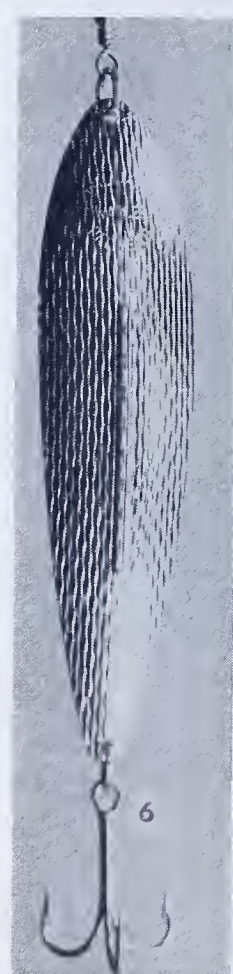
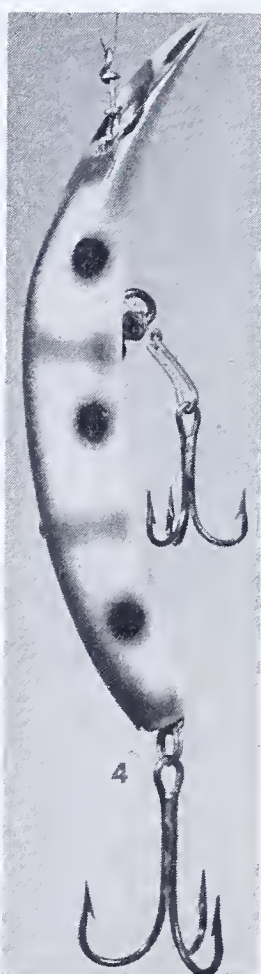
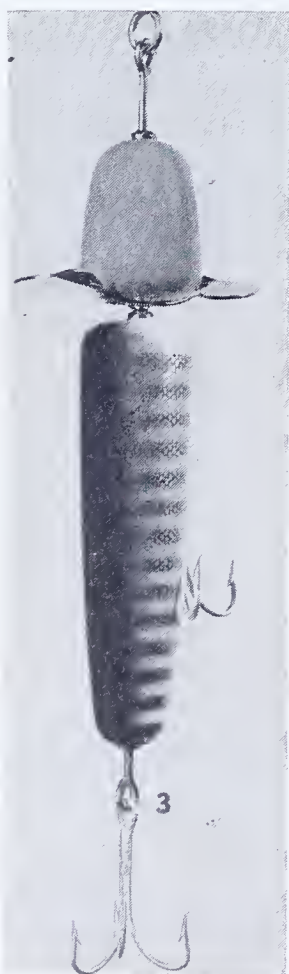
But if the pocketbook does not allow one special rod for muskies, a stout all-purpose bait casting rod or standard spinning rod will do. However, with the long, limber spinning rod in the hands of most fishermen, the fish is the boss. In the hands of an expert—a patient expert, that is—it's no problem. In fact, a 37 lb. musky is recorded to have been taken in Wisconsin in 1955 on a standard spinning outfit with 6 lb. test monofilament. It is a record, incidentally, for such tackle.

For what it is worth, my own musky rod is a compromise—longer than the "ideal" and of medium stiff action to enjoy more play, and it's a two-handed model (no muscles, that's me) that will accommodate either a bait casting or spinning reel. If you must know, it's the Garcia Conolon "Popping" rod and triples for muskies and lake trout inland, and for blue fish in the ocean.

Reels. If yours is to be a standard bait casting outfit, there are just two considerations. It should be a sturdy reel of better quality and should be geared of a material that will stand the strain of casting heavy lures and the pressures of these heavy, powerful, speedy and slashing adversaries. And to avoid skinned knuckles from wildly spinning handles when the "tiger" suddenly decides to put more water between himself and you, fit it out with rubber handle grips.

If you want a heavier reel, and there is no shame

(See Page 14)



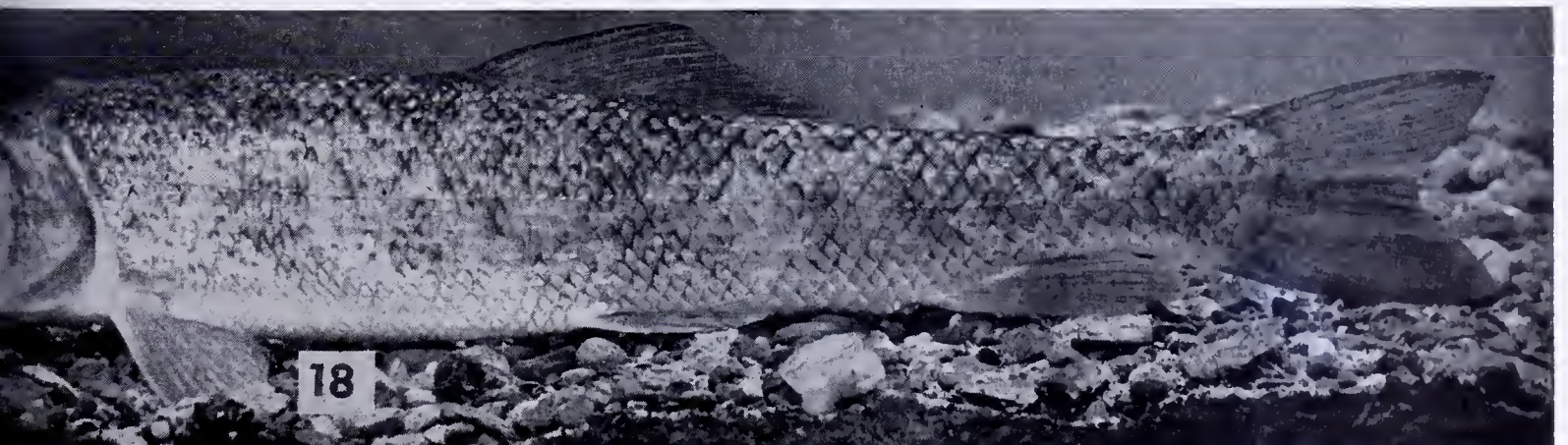
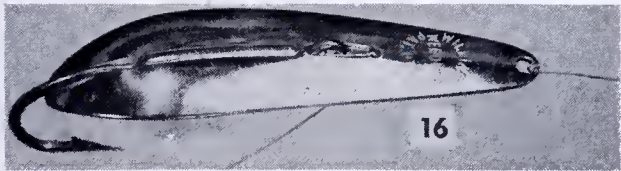
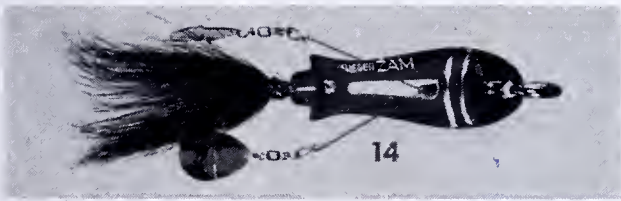
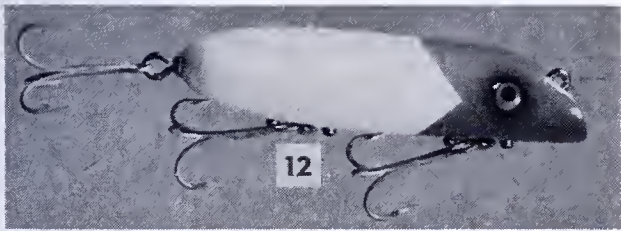
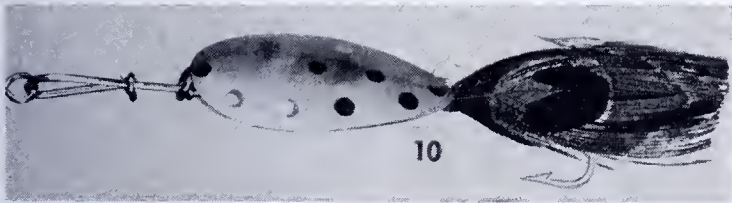
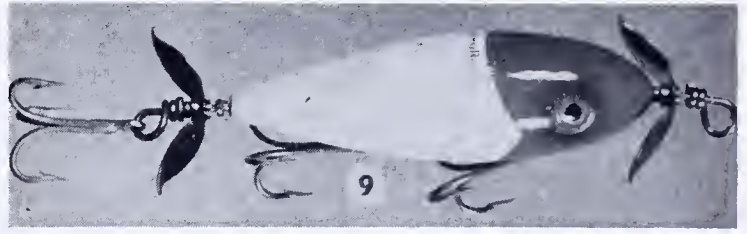
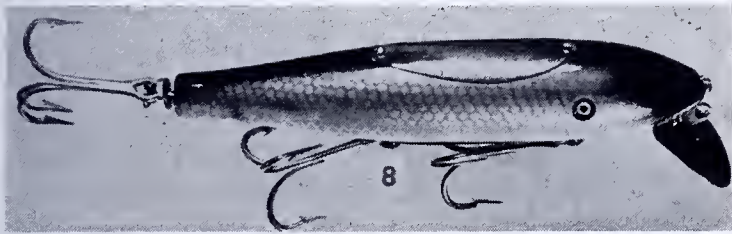
WHAT THEY ARE AND WHO MAKES THEM

Lure No. 1 (upper left) and the live sucker (lower right) are illustrated in actual size. The rest, lures numbers 2 to 17 inclusive, are illustrated one-half actual size. The order in which the lures are listed has no bearing on their order of preference or effectiveness. Nor is it meant to imply that other lures and baits unlisted here are not, on occasion, equally effective. Rather, this array is presented only to serve as a guide or a starting point to a newcomer to musky fishing. And even to stock all of these would require a larger tackle box than most anglers care to carry. Following are names of the lures and manufacturers of those listed: (1) Creek Chub "Pikie," (2) Creek Chub "Pikie" (jointed), (3) Pflueger "Globe," (4) Helin "Flatfish," (5) Eplinger "Daredevil," (6) Williams "Wobbler," (7) Creek Chub "Pikie" (double-jointed), (8) Pflueger "Mustang," (9) South Bend "Surf-Oreno," (10) Pflueger "Muskil," (11) Bibbs "One Eye Wiggler," (12) South Bend "Bass-Oreno," (13) Fred Arbogast "Jitterbug," (14) Pflueger "Zam," (15) South Bend "Super Duper," (16) Williams "Weedler," (17) Heddon's "Vamp Spook," (18) Live Sucker.



Musky Lures

... that appear most often on the "preferred" lists of numerous guides and "died-in-the-wool" musky fishermen



to heavier gear with muskies, as they give no quarter and deserve none, several manufacturers now produce smaller than the deep-sea variety reel, incorporating the star-drag feature. This type reel is a very practical buy, as it may also be used for deep lake trout trolling and light salt water fishing—sea trout, blue fish, etc.

The same reel properties—sturdiness and material wise—apply if you will be using the spinning approach.

Lines. The fisherman's ability and the type of water area in which he will be fishing, whether characterized by stumps, weeds or rocks, will dictate the weight of the line recommended. The pound test may range between 18 and 30.

A safe rule to follow up to this point is to have a good, stout rod and reel and a heavy line. You can then concentrate on the musky, as you will have to, with no concern for tackle.

Lures. Here is where there is the most leeway as there are many "proven" musky lures on the market today, with more due to come. A few of the more notable are pictured on pages 12 and 13. Also, some fishermen have devised their own and swear by them with good cause (see "You've Got to Specialize," by Bill Walsh, in the July, 1958 ANGLER). Then there are times when a cast or trolled live sucker up to 10" long, the favorite of many musky fishermen, will produce best. Chubs and frogs afford a change of menu.

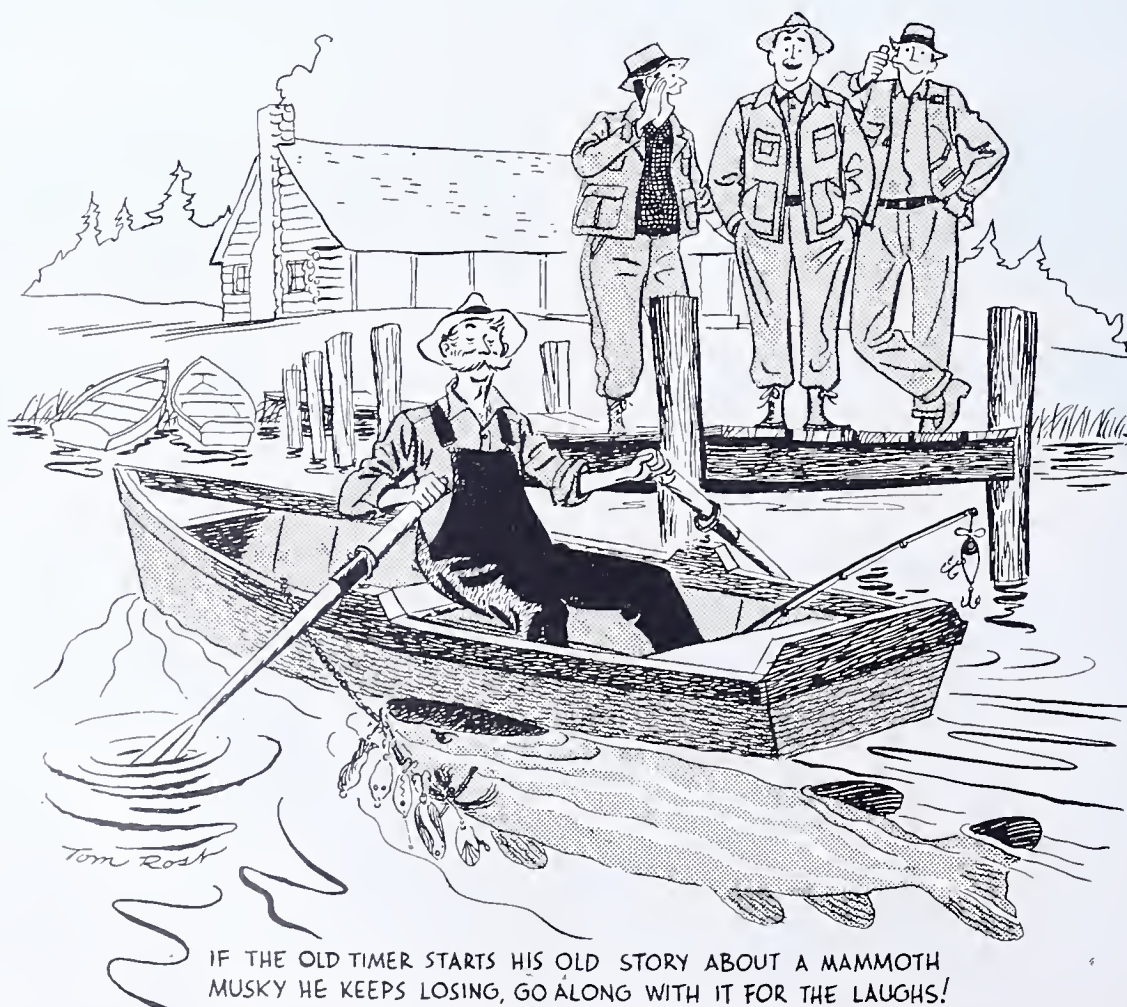
All of this, however, is not to suggest that other lures or baits of lesser sizes and types are not produc-

tive. A splendid fish was taken from the Allegheny River through the ice last winter on a worm. Another was taken from the same water area near Franklin on a June Bug spinner and worm combination.

I brought a musky just under the 30" limit to net in Wisconsin two summers ago on a $\frac{3}{8}$ oz. Heddon "Sonic" while fishing for walleye. Then just 15 minutes later had one of better than arm-length size shower both me and the guide when it took a pass at that same lure as I was lifting it from the water at the end of a retrieve.

Leaders and Swivels. The rule for swivels is the same as for rods, reels and lines—stout and sturdy. This quality in leaders, however, is generally overdone. The "test" of the leader need be little more than the line, though it should be of wire, either cable or preferably single strand. A leader of wire will best resist the abrasions of the mouthful of teeth a musky sports and the cutting edges of its hard gill covers. Also, a leader of this type better stands the wear that is inflicted on a lesser material through contact with weeds, rocks, stumps, etc. The heavy cable-type leader should be avoided as it inhibits and sometimes destroys entirely, the "built-in" action of most lures.

Gaffs and Nets. The rule again is simple—big and strong. A musky landing net should present a large mouth, a deep net of heavy linen or nylon twine and a strong, long handle, preferably of aluminum for lightness. A net of linen twine should be tested before each outing to be certain that a good sized fish will not be able to punch his way through it.



IF THE OLD TIMER STARTS HIS OLD STORY ABOUT A MAMMOTH MUSKY HE KEEPS LOSING, GO ALONG WITH IT FOR THE LAUGHS!

If you lean to the gaff as a landing device, a long one-piece aluminum tube handle is best. Avoid the telescope type. Though it never happened to me with a musky, thank goodness, I've had a fair sized bonita swim off with my hook section implanted in its belly, while I was left holding the grip section when the built-in "stop" became unstopped.

The gaff hook should be of good steel, the point of which should be kept sharp to penetrate hide if necessary. Usually, however, quietly slipping it into the gill opening is sufficient. One precaution: impail a cork on the point as a safety measure. This guard can easily be bumped off against the seat or gunwhale before pressing it into action. The alternative might be a punctured leg or butt, either of which could have dire consequences in addition to ruining a day's fishing.

Methods and Procedures

Where to fish for muskies? In waters where they are known to be present, one is likely to be found almost anywhere. Though weed patches and stumpy areas deserve the greater play, while it's never been my good fortune, I've seen them hooked out in the middle of nowhere more than once.

And while muskies have favored the business end of just about every conceivable lash-up via methods of fishing that run the gamut from the throw-line on up, casting and trolling are the methods employed when the true musky fisherman is at work.

Pinpoint casting in open patches and along weed beds and stumpy areas pays the greatest dividends. This, whether a lure or live bait is being used. "Pinpoint" is emphasized, as a weed bedecked lure means just that much less probability of a musky. Trolling along such areas could also prove equally effective.

Though shorelines get the greatest play, drop-offs and bars, when their locations are known to the angler, deserve a thorough going over.

The length of a cast or the distance behind the boat a lure should be trolled are two factors that elicit diverse opinions. I am forced to go along with those who set 50 feet in each instance as the optimum. Up to this distance, greater casting accuracy is possible and this is important. While trolling, better direction and control of the bait or lure is similarly possible. More often than not, the lure must pass fairly close to a musky to arouse his interest.

Another factor proven to my satisfaction is that muskies, like bass, are sometimes attracted to the disturbance created by a paddle or oar or motor prop. The lure, therefore, coming close behind, may be taken by the aroused fish.

Random Tips

Best Times. The four hour period between 8 A.M. and noon and the period between 2 P.M. and dusk are the times to which most guides seem to subscribe and during which most record muskies have been taken.

Retrieving the Lure. Have the lure moving back to you as soon as it hits the water and keep it coming at a good clip. However, during the last 8 or 10 feet of the retrieve, slow up a bit. A fish may be following and this change of pace may just do the trick. If a follower is noted and he fails to fall for the slow-up stratagem, reel the lure to within a foot or two of the rod tip and do a figure 8 with the lure. If that doesn't work, lift it quietly from the water and cast again to the same spot. A musky will usually return to his resting place and he may take on the second or third trip

The 36"—10 lb. musky with friends Thomas (left) and Henry Foister. Big brother made the catch while fishing in French Creek in the middle of town, and on a worm, no less.

Meadville Times photo.



by or hold off as long as the tenth cast. If he doesn't accommodate you, mark the spot and come back later.

Keep Alert. Keep your eyes on your lure or in its direction at all times on every cast. Be ready to re-act instantly. A V-shaped wake or a bulge or swirl is the tip-off that something big has shown interest.

Check Tackle. Periodically inspect guides to assure they are clear of obstructions and free of grooves or cracks that could weaken the line. Be certain that all reel parts, including screws, are secure and functioning properly. Be certain that the knot attaching the line to the swivel is right and firm. Check the full casting length of the line to be sure that it is worn or frayed at no point.

Tight Line. The musky more than any other fish, save possibly the smallmouth bass, will take instant advantage of a moment's slack line. Keep it tight at all times and endeavor to wage the battle at close quarters. But under no circumstances even when about to net or gaff the fish, reel it in closer than four to five feet from the rod tip. The shorter the line between the rod and the fish the more leverage the fish has. And its at the boat when a musky's lunges are most vigorous and desperate. Also, if it darts under the boat, such a length of line will enable you to swing over and around the bow or stern, with a minimum risk of fouling the line on the boat or motor.

Sit Down. This is a cardinal rule for any boat fisherman, and mainly for reasons of safety.

Hands Out of Mouth! One look at the array of teeth a musky wears should be warning enough against venturing in that mouth with bare hands for whatever

reason. Therefore, removing the hook should only be done with a pair of long-nosed pliers or a practical hook remover. And when about it, prop or wedge the mouth open with a stout stick in a manner that it won't slip, for if per chance, that mouth would clamp shut, the unwary fisherman is in trouble. The teeth are many, sharp and hard and the jaw is a powerful one. At best, when freed, the hand will have more punctures than a colander has holes. Or it could be skinned as completely as a peeled banana. Or a finger could be severed almost cleaver clean. Even a single puncture from one of those teeth is cause for concern. If it does happen, bleed it well and treat it as you would any puncture wound to avoid infection.

Persistence

Persistence, more than any other characteristic a fisherman may possess, is the key-note to musky fishing success. In a recent report on the Ohio muskellunge program, 1948 to 1958, by Ray H. Riethmiller of the Ohio Division of Wildlife, it was stated that the average time devoted to account for one musky in Ohio was 100 hours of fishing, and this by "specialists." The rate decreased to one musky per one thousand hours of fishing for those of lesser talents. In other waters claims of one musky for every 8 to 10 hours of fishing have been made.

Just how complete or accurate such figures are would be most difficult to substantiate, because musky fishermen, unlike their brothers concerned with the "lesser" species, are not prone to brag. As stated at the outset here, many hide their enthusiasm and their successes, lest they get too much company.

Two leading doctors said this about today's living: "Modern labor saving devices have eliminated much physical exercise that once was a part of normal living. This is both good and bad. We can be either

lazy, or free to enjoy beneficial exercise at the tennis court, golf links, beach or gym."

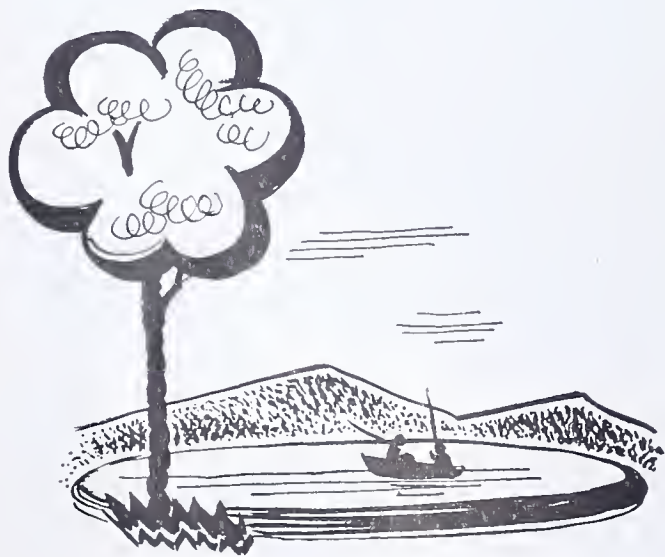
Evidently neither of these good doctors are fishermen, for they left out the greatest all-age participant sport—fishing!

So, speaking up for some 30 million anglers around this nation, these fishing experts, who study both people and fish, point out that 18 per cent of the U. S. population, eight years or older, fishes.

A man or woman too elderly for the golf links, gym, tennis court or beach can find delightful, companionate, healthful recreation—out fishin'. A guy or gal in the "zestful years" can explore distant shores, portage into hidden lakes, or wade miles of crystal clear trout waters. A lad or lassie can worm fish with a cane pole and see it transformed into a magic wand as it snatches a bluegill or bullhead into the ozone.

Where else can a myopic medic watch his troubles run down a line and drown themselves in clear, cool waters? Nowhere but out fishin' . . . what time shall we pick you up, Doc?

—Homer Circle





Sweet Agony — *from outer space*

WHEN the time comes you can't pat a guy on the back it'll be either he's sick and tired of all this praise and adulation or he's got a big hunk of sunburn . . . the latter more plausible than the former. We've all suffered from this vacation-time malady at one summer or another. Some gents in the throes of their agony would hardly deny these tortures were closely akin to to being burned at the stake.

Like most victims . . . NEVER AGAIN! Nobody with all his buttons securely fastened wants any part of an exquisite pain commonly associated with the subtle tortures of the Spanish Inquisition. Under the care of a physician most folks slowly recover and when pain is on the wane, the experience is quickly forgotten. We're ready for another go at it next season.

And, some guys never learn. They've got to get that manly tan AT ONCE! You'd think we wouldn't have to draw 'em a picture every year of a blazing back lying on our gizzards and a stack of fifteen of the softest pillows to be found. This stuff just doesn't sink in and we don't know why we, year after year, put out the warning signals. Nobody (still unbaked) wants to be nagged, nagged, nagged. These same people returning from the shore, a picnic, etc., very well done on both sides invariably gasp . . . "we shoulda listened!"

Furthermore, there is no sense in lecturing on the gamma, theta, iota rays of the sun and which of the greeks burn the daylights outta yuh. Just think of Old Sol as a loaded gun . . . ready to put the pepper to you, three skins deep!

Oh . . . we have suggestions of how to avoid this misery but nobody'll take them seriously. We must fill up space so we'll list them anyway:

1. Remember that the intensity of the sun's burning rays is increased by reflection off water and sand; it is greatest around mid-day.

2. Remember that your hat and long-sleeve clothing can be used to control exposure.
3. Use a suntan product which contains a sun-screening agent from the very beginning. Select one which suits your complexion—the more sensitive your skin the greater the need of a sunscreening agent.
4. Repeat the application of suntan product at intervals during exposure.
5. Use sun glasses, a shield or other means of protecting the eyes from the intense rays of the sun.
6. If in any doubt, PLAY IT SAFE for the first few days.

\$25,000 worth of fish

From Sunbury to Conowingo Dam, 200 prize fish worth more than \$25,000 are being released in the Susquehanna. All prize money is being donated by WGAL-TV.

Two hundred of these fish are worth \$50 each, three hundred bring \$25 apiece. Each of these prize fish is wearing two plastic disks smaller than a dime. Both of the disks are printed to indicate their prize value when turned in at the WGAL-TV studio, Lincoln Highway West, Lancaster, Pa.

On June 15, a fish worth \$8,000 will be released. Only rules are those set forth by the Pennsylvania Fish Commission in issuing licenses.

Some persons regard the game or fish warden as an enemy. Sometimes a guilty conscience prompts such thinking. Actually, the wardens are their friends. Protecting and preserving good hunting and good fishing.

To preserve a man alive in the face of all the dangers to him in this chemical age seems almost as great as creating him.

JIM COX, WGAL-TV newscaster holds one of 500 tagged fish released in Susquehanna from Sunbury to Conowingo. Note plastic tag near dorsal fin. Anybody for fishin'?



Build

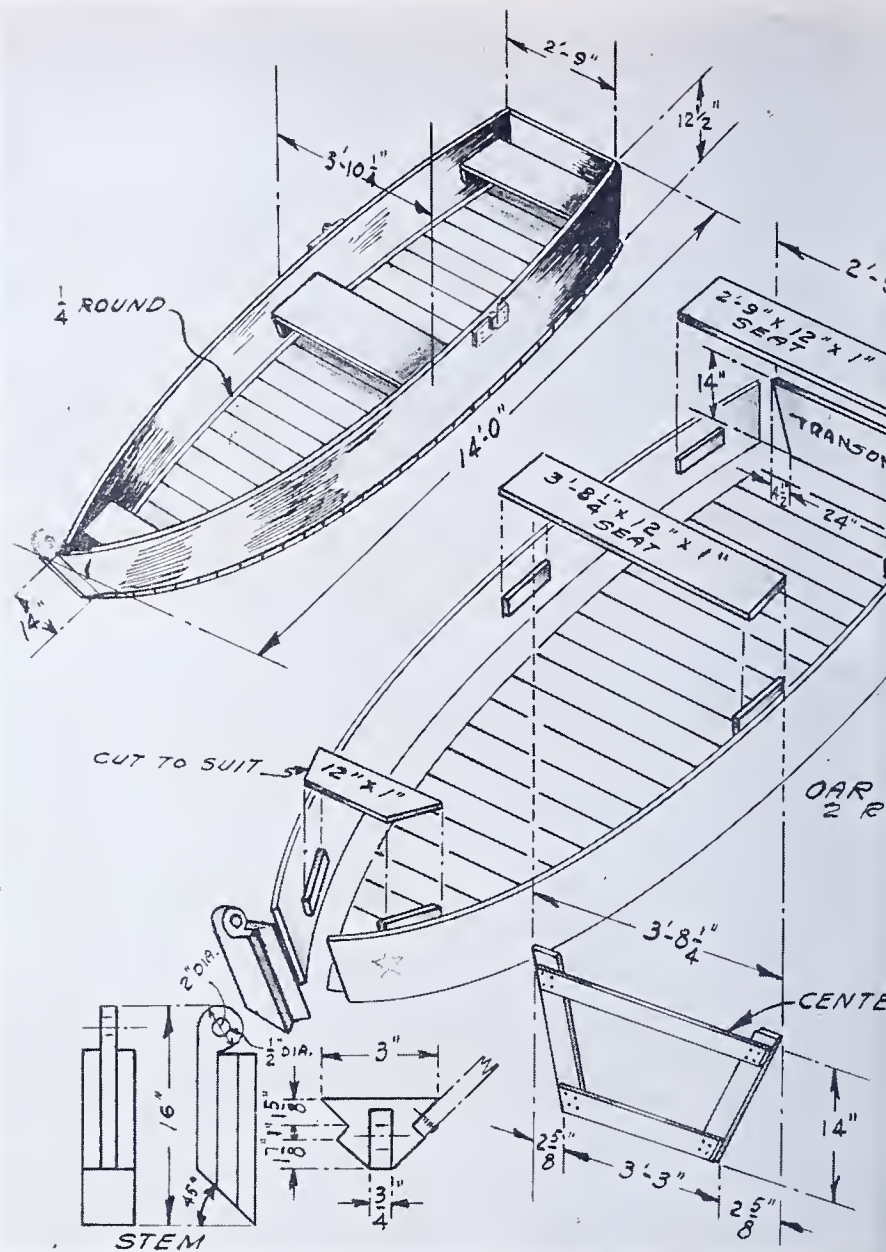
A

Boat

for fishing

Photos and Story By

DON SHINER



List of necessary Materials for 14-foot flat bottom skiff. For specifications and plan see above

- 2 pc. 14-ft. x 14-in. white pine sides
- 140 ft. 1 x 4-in. white pine flooring
- 3 pc. 3/4 round 14-ft. x 1/2-in.
- 1 pc. 36. 14. 2-in. red wood transom
- 1 pc. 16 x 3 x 4 1/2-in. oak bow
- 1 pc. 12-ft. x 12-in. pine for seats
- 1 gal. marine paint
- 250 (1 3/4-in.) wood screws

Photo Steps of Procedure

- (1) First step is cutting oak bow according to plans, fastening two side boards in place with large wood screws.
- (2) Side boards are bent around center mold and fastened to red wood transom.
- (3) Center frame and short board nailed temporarily between sides near bow give proper shape to hull. Tapered sides are achieved by shape of bow and transom. Hull is now ready for floor.
- (4) Floor boards (4 to 6-inches wide) are fastened to hull. Use calking material between joints to make water tight fit. Allow thickness of a dime between boards if boat will be kept in water for months. Electric drill saves time drilling holes for wood screws. Use 2 screws per board. Keel is optional but gives strength protects against rocks etc. Power saw is helpful in trimming.
- (5) Flooring in place boat is turned right side up, seats installed. Center mold is left in hull until all flooring is in place, prevents hull from changing shape. Smooth sharp edges with plane. Molding around transom and flooring helps keep craft water tight. Cut seats desired length, fasten in place. Seats are fastened to sides with center support to floor. Angle iron are used to hold seats which are bolted to the irons.
- (6) Trim board along top edge of sides optional but reinforces sides, gives boat trim, finished appearance. Boat is now ready for two coats marine paint with ample drying time allowed between coats.

A boat is part of a man's fishing gear, as essential to angling as a line is to fly casting or bait casting. Anglers who own some type of boat are more able to travel to the far shores of lakes, or stage long float trips down rivers. They are able to troll over sand bars for walleyes, work within casting range of shores for pickerel, drift for bass and panfish, and are able to enjoy hours of floating leisurely over waterways. Boats broaden the scope of fishing and outdoor recreation, while those of us who lack this piece of gear are confined to shore or limited to areas that can be safely waded.

Boats can be hired by the hour or day at most lakes and rivers, giving fisherman the opportunity of enjoying advantages of using one. But a hired craft is never the same as one owned by the individual angler. Chances are the hired craft leaks slightly(?) and the floor is usually wet and dirty. Seats may be too low for comfort; oar locks may be loose and oars wobble. A motor may not fit the transom properly with no provision made for chaining the outboard fast against possible loss of motor in deep water.



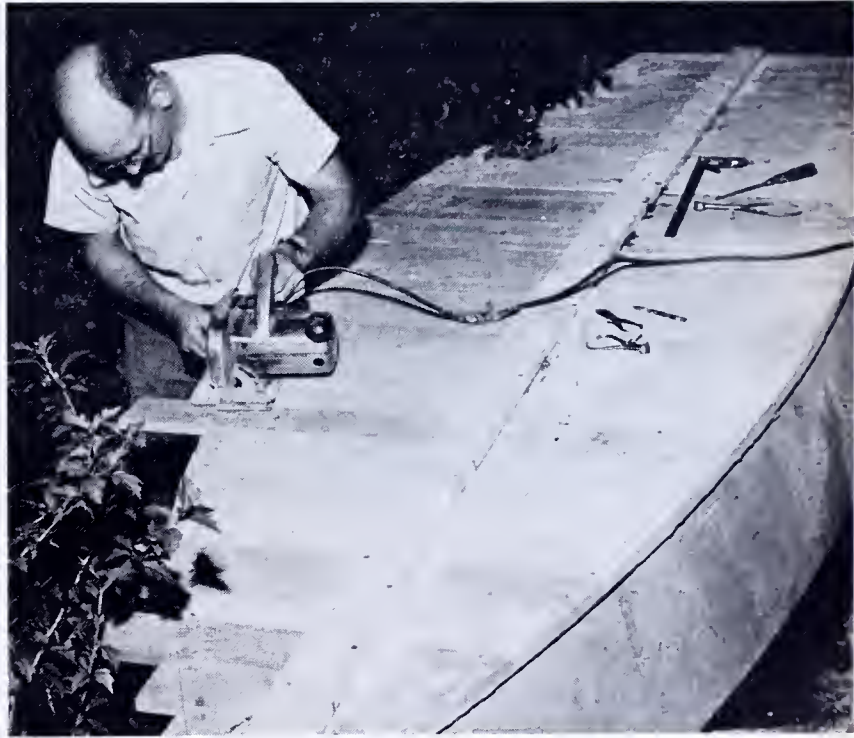
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— 2 —



— 3 —



— 4 —



— 5 —



— 6 —



FINISHED CRAFT . . . operates nicely with oars or outboard. Many happy hours of fishing to you!

There are countless other advantages in owning a boat. More and more boats are afloat every year on Pennsylvania's waterways, which seems to prove more and more fishermen are adding this piece of gear to their equipment. Some boats are factory jobs or assembled from pre-cut kits, but many are home con-

structed affairs, with considerable fun to be had in assembling a craft in the home workshop during free evenings.

One popular craft the home craftsman is building is the 14-foot flat bottom skiff. This model is simple to build, yet remains one of the most rugged of any present design. It is frequently termed the work horse of the fisherman's fleet and is the popular flat bottom boat found dotting the shores of the Susquehanna, Delaware Rivers and the majority of sheltered ponds and lakes. Usually launched in the spring, it is allowed to remain afloat until the winter freeze and continues to give years of service with no appreciable amount of care other than an occasional coat of paint.

Plans herein show you how to build this rugged craft. Part of its ruggedness stems from the type of construction. No intricate forms or sub-assemblies are necessary. Two fourteen foot boards are fastened to an oak bow, then bent around a center frame and fastened to the transom to form the hull. Heavy $\frac{7}{8}$ -inch pine flooring will stand an unbelievable amount of scuffing and scraping over river rocks. But considerable weight can be eliminated by shortening the boat two feet and using a single sheet of $\frac{3}{8}$ or $\frac{1}{2}$ -inch marine plywood for a single piece bottom. It is then suitable for handling on a trailer, hauling from one lake to another and storing in a garage between trips astream.

In the event the boat will be launched and kept afloat for months, a crack the thickness of a dime is recommended between each floor board to allow for swelling. Caulking material placed between the narrow floor boards will make the craft water tight immediately. White pine is preferred throughout with the exception of the oak bow and oak or red wood transom. Actual cost will vary from one locality to another, but it will run in the neighborhood of \$45.00.

The boat shown under construction here handles exceptionally well with oars and performs perfectly with outboards up to 10 h.p. Check over the plans. If this style boat fits in with your type of water front, sharpen the tools and set to work building this rugged craft. It will add much to your angling enjoyment.

You Can Help

Tagging of fish is an important tool of fisheries research and management. The tagging itself is, however, only the insignificant half of the picture. Biologists must get the tags back and they must obtain data on the tagged fish. That's where you come in.

If asked what to do with a tag or asked to turn one in, record these data: (1) Date and time caught; (2) place caught including waters and general location in waters; (3) length, weight, and condition of the fish. Accurate, complete information will bring a vote of thanks from any biologist.





Notes FROM THE STREAMS

LOOPHOLES

Good sportsmanship begins with youth. It almost has to unless we older folks commence to practice what we preach.

If our elders continue to search for loopholes they can shinny thru in our laws there is no reason to suppose our juniors will avoid making the same unnecessary errors. Laws are designed for protection not tight rope walking. When you're in the outdoors Dame Nature doesn't condone sitting on fences. She wants an even break and she'll take care of the rest. When things get too big for even the old Dame to handle man can suggest, plan on paper, huff and chuff around like he has all the answers but only God can make a tree.

How many times does Dad take the boy out fishing a year? Once, twice or whenever nobody else asks him and he's at loose ends for a fishing buddy? There are some Dads who can teach Junior quite well how to skin a cat, maybe two or three of them. Cheating comes under many disguises, none of them respectable regardless of how much icing's put on them.

During the course of a trout season I've come upon father and son many times. Invariably before I can get an answer from the boy as to how many fish were caught, Pop pipes up first with the number. When apprehended without a license, Pop says . . . "Wasn't fishin', just showin' the boy how." Then later tells all his friends that blankety blank Fish Cop arrested me for baiting my boy's hook.

You'd think with all the money spent by varied Conservation agencies to promote the welfare of youngsters in their outdoor interests, parents of these youngsters could at least set a good example. True, many parents are unwilling, yes, detest slipping and sliding around the law, any law. They know the word "restraint" is a mighty fine word invented long before Webster. If we can let a bit of patience and tolerance, largely making up the word "restraint," rub off on our younger folks, the dividends in higher standards for citizenship and public service however what field, should prove well worth the effort.

—Excerpts from a letter of Warden Stephen A. Shabbick

Hand-Feeding Eels

While trout fishing the Bushkill near Resica Falls, Jack Miller of Lansdale, Pa. snagged an 8-inch trout. After checking size he was in process of releasing the fish when a large eel slithered up and calmly took the trout right out of Jack's hand. Next!

—Walter J. Burkhart, Warden, Montgomery & Phila. Counties

Etchings . . . No, Thanks!

Fish taken by Dr. Robert S. Rusling of Philadelphia will not be able to show off their etchings. Dr. Rusling uses a very shiny hemostat from his case of surgeon's instruments, to remove hooks from fish he catches. He explains the hemostat is used to stop bleeding during an operation and applied to bluegills and other fish, patients almost always recover. Fish wishing to have their tonsils removed should be referred to the good physician.

—Miles D. Witt, Warden, Northampton & Bucks Counties

"My Sin" Flavored Sinkers?

Yep, it's a top secret but you might be able to pry it out of Frank Reeser, Roland Hinkle or Mrs. Hinkle all from Reading.

The three were trolling Lake Wallenpaupack for trout and calico recently, latched into something heavy, in fact unusually heavy. Two pike were on the line . . . one on the hook the other on the sinker. The one on the sinker simply refused to let go so both were boated then released. How many flavors do sinkers come in these days?

—Joseph E. Bartley, Warden, Pike County

Beavers Aid the Reds . . . !

A Bradford County angler propped his two bamboo poles for catfish in a beaver pond. Running out of bait he left the poles a short piece to dig a few worms. Returning he found one pole missing. Turning the spotlight on a beaver dam he found a beaver repairing his domicile with the bamboo pole. It is now surmised since trappers had a poor catch of beaver last season on the pond, perhaps the Reds have infiltrated the beaver colonies hiding behind the Bamboo Curtain.

Come On Next February!

Bill Sheaffer, son of a Deputy Game Prospector went fishing the West Branch of the Tionesta Creek. Luck was punk but after a time Bill jerked in a trout with such zest the fish sailed over his head into a groundhog hole. Digging didn't do it so Bill's gonna be around next Groundhog Day waiting for that trout to maybe show himself.

If the Hole Fits . . .

But it didn't for Leroy Simons of Hunlocks creek, Luzerne County. Seems Simons cut a hole in the ice jigging for perch on Lake Winola. The hole was big enough for the perch but when he tried to get a 31-inch, 12-lb.-1-oz. walleye through the hole . . . no go! So Simons got aid from a companion Fred Dodson of Kunkle, Pa., . . . while he played the walleye, Dodson sawed out the hole to accommodate the girth of the fish.

Fishing Guide To Warren County

In keeping with a friendly policy of accommodating those wishing to fish the Allegheny River in Warren County, the Tidioute and Warren Chambers of Commerce have made available a brochure. It contains a map of the Allegheny River and lists of places where lodging may be had. This brochure may be had by writing the Warren or Tidioute Chambers of Commerce.

—Kenneth G. Corey, Warden, Warren County

Good Public Relations

Sportsmen's clubs of Armstrong County have placed garbage disposal barrels at numerous places along major trout streams. The barrels have been lettered with the name of the club and ask that all rubbish be placed in them. (Nice going)

—Anthony Discavage, Warden, Armstrong County

NEW THINGS *in* TACKLE and GEAR

Intended as a service to ANGLER readers wherein new items of fishing tackle and outdoors gear that come to the attention of the editor are introduced, with no intention of endorsement.

Address all inquiries to the respective manufacturers.



The Weberlite Go-Kooler "26," a new, improved and larger picnic cooler, was recently announced by Weber Tackle Company, of Stevens Point, Wis.

Like their smaller model, it is molded of high-insulation expandable polystyrene plastic, one of the most efficient insulating materials. According to Weber, this cooler really keeps cold things cold. Ice cubes last for days. Without ice, cold drinks are still drinkably cold the next day.

The cooler won't absorb odors, resists mold and mildew, and is easily washable. It is rugged and durable and won't rot or corrode. Metal straps are securely anchored on both ends. The metal swing-type handle, which is easily adjustable to lock the cover, has a comfortable plastic grip.

In spite of its large size, the "26" weighs only 48 ounces. Its full 26-quart capacity provides space for 36 cans of beer, or 28 "coke" bottles, or 15 quart-cartons of milk, with room to spare for sandwiches and the like. Over-all size is 19 inches long, 11½ inches wide and 13 inches high.

Since the plastic is very buoyant and won't waterlog, the cooler is unsinkable and, even when filled with water, will keep a 200-pound man afloat.

It is offered in two colors: Terrazzo Blue and Terrazzo Tan.



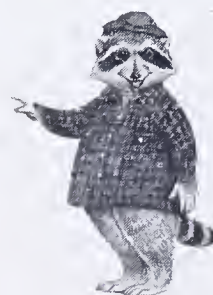
For Safety—Keep Your Shirt On!

Fishermen and pleasure boaters looking for an "always on" and "automatic" life preserver, without the bulkiness of the conventional jacket, will be interested in the "Floater Shirt." True, it isn't a U.S. Coast Guard approved piece of life saving equipment, but neither is the familiar Mae West or other "gas" type preservers to which many airmen and seamen owe their lives.

The Floater Shirt is a conventional-appearing sports shirt that blossoms into a life preserver four seconds after immersion in water. A small chemical packet hidden inside the shirt releases a harmless gas between the shirt's two layers of cotton fabric that will keep the wearer afloat for 45 minutes. A mouth valve concealed in the front pocket allows indefinite floatation. It will not shrink or fade in water, nor is its effectiveness lessened by repeated laundering. It is available in a variety of colors and sizes, from children's to adults. **Outdoors, Inc.**, 103 Guitar Building, Columbia, Mo.

HOWDY, THE GOOD OUTDOOR-MANNERS RACCOON SAYS:

Many folks who insist they are helping the cause of conservation to the best of their ability are quite willing to carry the stool when the piano needs moving.





REMEMBER? When members of the Adelphia Angling Club of Philadelphia visited the superintendent of the city's Aquarium, William E. Meehan, one of the first Commissioners of Fisheries in Pennsylvania. This photo was taken in 1916 by C. H. Goepel, Jr., of Philadelphia.

—May the roads rise with you, and the winds be always
at your back, and may the good Lord hold you in the
hollow of his hand. . . .

NEW FISHING DOCK FOR OKLAHOMA WILDLIFE DEPARTMENT

Members of the Cement Sportman's Club presented a new fishing dock installation to Oklahoma's Wildlife Department recently. The dock, installed along a roadway over a fill at the upper part of Lake Louis Burtshi, is shown in the photograph. Local sportsman's clubs are interested in following the idea through on small lakes and river shores, installing more ramps, docks, camping facilities, sanitary facilities and even do some landscaping.

Sportsmen built this fine dock on one of Oklahoma's lake for public use.



A Prayer on Growing Old . . .

Lord, Thou knowest that I am growing older. Keep me from becoming talkative and possessed with the idea I must express myself on every fishing subject. Release me from the craving to straighten out everyone's affairs. Keep my mind free from the recital of endless detail. Give me wings to get to the point. Seal my lips when I am inclined to tell of my aches and pains. They are increasing with the years and my love to speak of them grows sweeter as time goes by. Teach me the glorious lesson that occasionally I may be wrong. Make me thoughtful but not nosy . . . helpful but not bossy. With my vast store of wisdom and experience it does seem a pity not to use it all. But Thou knowest, Lord, that I want a few friends at the end.

The Fish Warden's Daughter Catches One!

Fish Warden Jim Yoder, Luzerne & E. Sullivan counties, has lost his buttons . . . buttons off his shirt and it's no wonder. His ten-year old daughter Virginia, a fourth grader, won fifth prize in the recently conducted Good Outdoor Manners contest sponsored by the Department of Forests and Waters and the Pennsylvania Forestry Association. In a field of 3540 enteries, Virginia had a slogan all her own on litterbugging as follows: "I give my pledge to treat our country's natural resources as if they were one of my very own most precious possessions." It was plenty good enough to win for her a fifty dollar U.S. Savings Bond. Is there a Santa, Virginia?

To be "Low Man on the Totem Pole" was not, as commonly believed, the most humble of the tribe. On the contrary, the bottom figure on an Indian totem pole was the person who carried the greatest honor and respect.

We use the word "INDIANS" to cover all the natives of the New World, but they never thought of themselves as one people. To them, each was a member of his own tribe and all other tribes were either allies or enemies. There are some 600 known dialects in North America, sometimes so different that even neighboring Villagers could not understand each other.

Ever wonder what a retired hatchery superintendent does to pass the time after retirement? The enclosed picture shows Bernie Gill, superintendent of the Tionesta Hatchery for thirty-five years (now retired) out to meet the fish truck when it rolled into Tidioute this spring. Bernie has recently moved to Tidioute and is taking an active part in helping to stock trout in the Tidioute area. He says he wants to see where the streams are for now he has a lot of time to fish.

It must seem queer for a man who has prepared thousands of loads for shipment to be on the receiving end for a change. He looks good and he says he feels fine.—Ken Corey, Warden, Warren County



GIRLS WIN TOP PRIZES IN GOOD MANNERS CAMPAIGN

Nobody knows what happened to the boys but five girls won top spots in the state's Good Outdoor Manners campaign. Governor David L. Lawrence, in a letter to each of the five, assured the youngsters that the pledges they submitted in the contest will be used in the campaign against littering and vandalism along the state's highways, streams and in parks and forests.

Winners are as follows: Carol Dawe of Pen Argyl Joint High School—\$200; Dorothy Kelly, Towanda, Pa.—\$150; Susan Sherman, Blossburg, Pa.—\$100; Karen Grotzinger, Saint Mary's, Pa.—\$75 and Virginia Yoder, Sweet Valley, Pa.—\$50; all prizes in U.S. Savings Bonds.

Winning pledge: "I give my pledge, as a resident of Pennsylvania, to keep the state's lakes and streams pure; its forests and woodlands green; its countryside clean; and its wildlife a living picture for others to see."



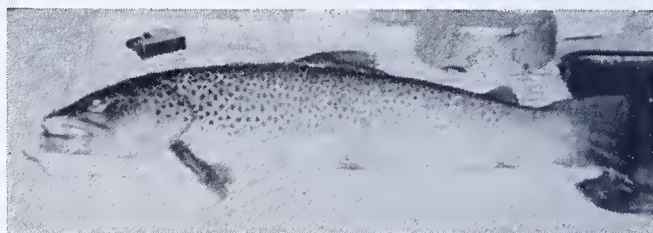
CUSSEWAGO CREEK, Crawford Co., housed this 14-lb., 39-inch muskie until Joseph L. Byham of Rogers Ferry Road, yanked him out his habitat on a plug. Scales indicated fish was about seven years old.



HAPPY FISHERMAN, happy warrior, Larry Geiger, Milford, Pa., with trout he caught in Sawkill Creek.

HOWDY STAMPS

Five new and different HOWDY STAMPS are now available from any organization cooperating in the Good Outdoor Manners Educational Project or from The Pennsylvania Forestry Association, P. O. Box 389, Ardmore, Pa. The stamps are printed in two colors, 30 stamps to a sheet, perforated, gummed, can be used on all correspondence to pen pals etc. One sheet of 30 stamps—25¢; 40 sheets—\$5; 100 sheets or more 10¢ each.



ROBERT BONITZ of Waverly Road, Progress, Pa., snagged a 23½-inch, 4½-lb. brown trout in Cedar Run tributary to Pine Creek, Tioga county.



TROUT DERBY sponsored by Keystone Fish and Game Association broke all records for attendance recently when 600 adult and young sportsmen turned out in American Legion Hall, Shamokin. Principals in photo are: l-r, front row, seated, Clyde Laubach, Assemblyman John Stank, Congressman Ivor Fenton, Jerome Haupt, association president, and Rev. John Luckens; standing, Charles Litwhiler, fish warden, Richard Milbrand, assoc. trustee, Gilbert Latcha, warden, Charles Schoch, vp., Harvey Polan, treasurer and Elery Newbury, secretary.



PYMATUNING had to put up with this monster musky until Lee Allen of Pittsburgh settled his hash with a flyrod and minnow. Fish was 14½-lbs., 36 inches in length, no longer resides near Espyville.



Forrest Returns to Editorship . . .

The Division of Conservation Education—Public Relations announces the appointment of George W. Forrest of York, Pa., to its staff. Forrest, a seasoned newspaper man of long experience, is not a stranger to the Fish Commission. *ANGLER* readers may remember him as editor of the magazine during the period 1951-'56. In addition to his editing assignment, he will assist in promoting the overall program of public relations in keeping the public informed of the activities of the Commission.

While at Johns Hopkins University, Forrest edited the university magazine, broke in as reporter for the *Baltimore Post*. His timely articles on hunting, fishing and conservation have been widely published in newspapers, in state and nationally circulated magazines. He is married to the former Miriam Shenberger, also of York and they are the parents of three daughters and a son.

—J.A.B.

WATERSHED PLANS APPROVED— FISH COMMISSION TO PARTICIPATE

Tioga County's \$783,000 Mill Creek Watershed plan has been approved. Also approved was a \$470,000 program for Mill Run Watershed in Crawford County by local sponsors. The Fish Commission plans to participate in developing reservoirs in both of the projects. Other action in flood prevention and watershed development field includes local approval for the \$293,000 work plan of Saul-Mathay Watershed in Mercer County, and a decision by the Department of Forests and Waters to build a state park in coordination with the Little Schuylkill River program.

SHAD IN DELAWARE ON UPCATCH

Warden Joseph Bartley, Northeast division reports this year more persons were catching shad in the Delaware River than ever before. From reports the shad run is getting better each year. It was reported 60 shad caught at Lackawaxen alone.



ON MONDAY NITE, May 9, 1960, 8-year-old David Welker of State Street, Millersburg, Pa. met his match. This 26½-inch, 11¼-lb. carp swallowed a nitecrawler on a hook, fast to the line, attached to a rod held by David. But David slew Goliath!

TIP TO MOTOR BOATERS

Between outings in your outboard rig, always disconnect the fuel line from the gasoline tank in order to seal the tank and retain vapors in the fuel. There is a valve at the tank which automatically seals the container when the fuel line is removed.

The reason for this precaution is obvious when it is realized that in hot weather temperatures inside the gasoline tank may range up to 140 degrees. Under this condition some components of the fuel will boil off. As much as 15% of the "high ends" or the more volatile gasses are lost from an unsealed tank. Understandably this lowers the running qualities of the fuel.

These high ends are the more volatile gasses—those most easily combustible, and are therefore very important in starting, especially when the engine is cold.

The automobile has been a great moral force in America . . . it has stopped a lot of horse stealin'.

A man hopes his lean years are behind him while a woman wants hers ahead.

It's all so very sad when you find yourself living in a more expensive house or apartment when you haven't even moved.

A Sunday driver is one who doesn't drive any better during the week.

Then there was this guy who donated a loud-speaker system to his church in memory of his wife.

An old timer is a guy who remembers when there were other hand-me-downs for kids besides money.

Some people drink at the fountain of knowledge while others just gargle.

The business tycoon was showing his daughter, just returned from college around the new estate. At the swimming pool they stopped to watch several athletic young men diving and stunting. "Oh, Daddy," exclaimed the girl, "And you've stocked it just for little old me!"



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pennsylvania

Angler

pennsylvania fish commission

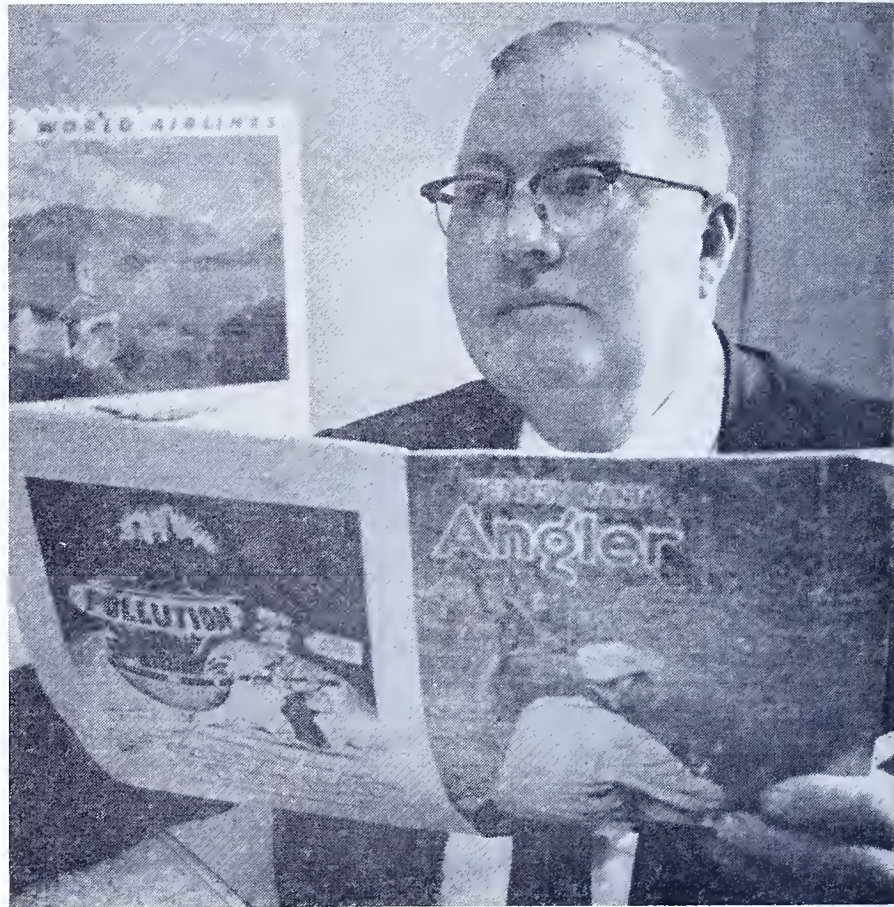
august 1960



Harmony at Hanover



*creature called a fish
the brook that failed
a case for barbless hooks
spinning light*



MEET . . . MR. ALBERT M. DAY, newly elected Executive Director of the Pennsylvania Fish Commission. Mr. Day is a veteran of more than 40 years service in fish and game work coming here from the post of Director of the Oregon Fish Commission. He has 36 years experience in the U.S. Fish and Wildlife Service during which he served many years as Director of that agency. We are more than proud to introduce Mr. Day to Pennsylvania Angler readers. Declared the new Executive Director, . . . "I feel highly honored to have been selected to serve in a position I consider one of the most important in the United States today. . . . I will do my best to do a good job for the Pennsylvania Fish Commission and for the people of Pennsylvania."

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AUGUST, 1960



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GEORGE W. FORREST, Editor

JOHNNY NICKLAS, Photographer

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Cover photos by Johnny Nicklas

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LAKE'S END is at the dam itself. No fishing is permitted in this area. The magnificent trees that line the shore cast shimmering green shadows on the cool, deep-green water.

A Totally Civic Minded Water Commission And An Appreciative Citizenry Have Added Fishing To The Uses Of Its Water Supply. It All Adds Up to

harmony at

HANOVER

● "The response of the anglers to our appeal for observance of rules has been amazing. There has not been a single instance of vandalism or property damage in two years of operation. The fishermen seemingly have determined to protect their own interests and assure future fishing privileges by assuming the role of supervisors. Any individual observed out of line is promptly warned by fellow anglers. Water works employees who serve as supervisors, as well as wardens who visit the scene from time to time, have little to do. The activity is self policed.

"The fishermen themselves have made the experiment a success, and our experience would indicate that many water supply reservoirs throughout Pennsylvania now closed to fishing could be opened to the activity under similar regulations, and thus contribute tremendously to the growing need for additional recreation opportunity in the respective communities."

Thus, Robert Laird, a member of the 3-man water commission directing the destinies of the Hanover Municipal Water Works, wrote recently of the added use to which its water supply reservoir has been put.

By C. ROBERT GLOVER
Conservation Education Division
Pennsylvania Fish Commission

Photos by Johnny Nicklas
Chief Photographer
Pennsylvania Fish Commission

Actually, in view of dire predictions from contemporaries elsewhere, the experiment was not ventured without misgiving. It was also written, "We were anxious to offer the public the recreational opportunity afforded by the presence of a heavy population of bass and other species in the water of the reservoir, but were fearful that some who would take advantage of such opportunity might fail to observe rules designed to protect against fire and water pollution."

However, instead of taking the easy way out, the water works commission, among other moves, called in representatives of the Pennsylvania Fish Commission. The Hanover officials were directed to and corresponded with the officials of other water companies and authorities. They evolved a set of regulations governing the fishing and organized a supervisory force, which included the district fish warden and his deputies.

Going back into history, 30 years ago that now thriving community which is famed for the Hanover "line" of trotting horses, and which lies just a few miles north of the Mason Dixon line in York county, had a very unreliable water supply and no nearby fishing.

As already can be presumed, today it has both—a water supply that is more than adequate and of high quality, and fishing. To say the latter is adequate would be open to argument by some because there are those who would not accede to adequacy with anything less than a hatchery pond. But fishing there is. And from all accounts, good fishing.

Both circumstances basically must be credited to Messrs. H. D. Sheppard and C. N. Meyers, founders of the Hanover Shoe Company. They spearheaded the development of the water impoundment that rightfully bears their names—The Sheppard & Meyers Dam. The facility resolved the town's water problem upon its completion in 1932. It resolved the no-nearby-fishing problem in 1958.

The latter accommodation must now be credited to the present commission consisting of S. C. Hoffheins, one of the utilities original commissioners; L. B. Sheppard, son of H. D., and Robert Laird. "Bob" is also an official of the Hanover Shoe Company and the Outdoors Editor of the *Hanover Sun*.

The reservoir itself presents approximately 45 surface acres and is about $\frac{3}{4}$ of a mile long, with depths ranging up to 25 feet. It is nestled in a 1,500-acre area covered completely with evergreens, interspersed with occasional stands of hardwood.

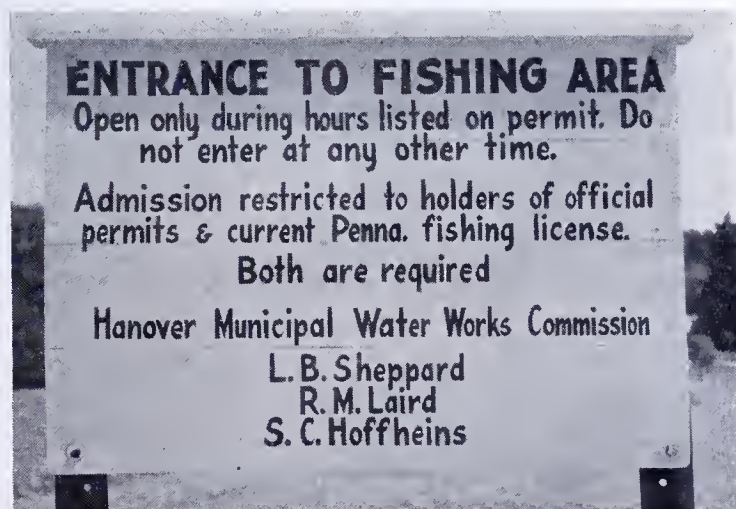
In the early days of the impoundment, a few bass were stocked and presumably some blue gills. The fish population now includes smallmouth and largemouth bass, blue gills, suckers, catfish and carp. Fortunately a relative few carp are present, which accounts for the unusual clarity of the water, to the delight both of the fishermen and water works officials. Muddied water by the actions of carp and other causes complicates the job and increases the cost of filtration.

Present also are turtles, among which are snappers that range to tremendous size. And during the migration seasons, thousands of waterfowl—ducks and geese—use the dam as a stop-over point.

As is to be expected many of the ducks remain to rear their families there. This year for the first time a pair of Canada geese have joined them.



TYPICAL SCENE anywhere along permitted fishing areas. Anglers say every spot along the lake is scenic, peaceful with the fresh scent of pine.



ENTRANCE to fishing area is self-explanatory. Each fishing district at the dam has parking area along road with gate area signs numbered. Each gate area has fishing limit signs to keep anglers within bounds.

WATER COMMISSION MEMBER Robert Laird chats with anglers: Charles Primmer, Roger Bankert both of Hanover and David Krisinger of York fishing from starting point in Fishing Area.



It is to be noted that the entire area has been set aside as a game sanctuary.

About the fishing. Presently close to 3,400 feet of shoreline are open to the sport starting on June 15. The closing date of the season there coincides with the opening date of hunting season. Fishing hours extend from ½ hour before sunrise to just before dark, when a siren signals the end of the day's fishing. "Despite the temptation to continue, no instance has been recorded wherein visitors have failed to observe the closing signal. A limited amount of the sport extends beyond the "open" season from bridges at 3 points along the reservoir shoreline.

Fishing is done only on a permit that is available to anyone possessing a Pennsylvania fishing license, upon application to the Commission office in Hanover. In 1958 1,100 permits were issued. Last year the number rose to 1,243.

On each permit, the conditions under which the permit is granted are outlined. Wading nor boat fishing are permitted. Fires and alcoholic beverages are prohibited on the premises. No foreign matter of any sort may be thrown into the water. Fish may not be cleaned in the area. Permit holders are required to use the walkways constructed by the water works for access and egress. The disposal of trash must be done in containers that are also provided. In addition, state fishing regulations and laws apply.

Also, in accepting the permit, the fisherman releases the Hanover Municipal Water Works, the Borough and all their representatives and employees from all liability for injury suffered while on or adjacent to the premises set aside for fishing.

And the fishing has been excellent. Many large-mouth bass, some over the 5-lb. mark have been taken. A few smallmouth bass have been crecked. Possibly bluegills have comprised the greatest catch. Many have ranged up to 10" in length, with one a bit over 12" recorded. In the early spring of the year, when the suckers move into inlet waters to spawn, those inlets that can be fished from the 3 bridges, give up great numbers of large suckers. Aside from the expected large opening day catch, results have remained consistent thru the two seasons. Early 1960 returns have been "up to par".

Most of the fishing is done with spinning outfits, the use of which is fairly evenly divided between artificial lure and bait fishing. Most of the bait fishermen use a bobber with minnows. Occasionally hellgrammites, stone cats or night crawlers will grace the business end of some rigs. Well in the minority are those who fish on the bottom. It is by these that the few catfish accounted for are taken.

Water Commissioner Laird also has written "The expense involved has been nominal." In addition to the walkways constructed through the wooded area to the shoreline and the waste receptacles at convenient locations, sanitary facilities have been provided and several acres have been set aside for car parking. In total approximately 200 automobiles can be accommodated on the parking lots.

Thus it is at Hanover. The water works officials are delighted that they are in a position to contribute



WIDE, CLEAN PATH leads thru fishing area entrances. Anglers must walk down to the water from parking areas because surrounding pines are propagation areas.

SIREN SOUNDS seven times and then it's time for all good fishermen to fold up their gear and quit fishing.



LIFE PRESERVERS are located for swift emergency use at every area station although it is hoped they may never be necessary.



more than water. They are proud of the trust they placed in their neighbors.

The fishermen are delighted that just a few steps from their homes is a fishing facility that not only provides good fishing but does so amid surroundings that are as ideal as they could be.

And as one fisherman with chin set and fire in his eyes said, "Woe to any lunkhead who would spoil all this." It would appear from that, that only for said "lunkhead" would there be no harmony in Hanover.

SELF HELP

By C. R. GLOVER



POTTER COUNTY Anglers' Club's trout rearing project near Galeton. Since this photo was taken last fall, sod, landscaping and lighting have been added. The lighting serves the dual purpose of attracting insects at night to augment the food supply and to discourage would-be poachers.

Another Report On An Effort By A Sportsmen's Group To Improve Their Fishing Through

. this one by the Potter County Anglers' Club of Galeton. The project: a trout nursery capable of rearing upwards to 10,000 adult trout per year.

The project got underway early in 1959 when the club of approximately 300 members approved the motion to explore the possibilities. A 3-man committee was named to do the exploring. Robert Rankin, Peter Kuhns and Howard Doud proved to be first rate explorers.

And while many others of the club and outside put muscle and money into the undertaking during the ensuing months, that trio stayed with it to completion.

As recorded by Kenneth Aley, fish warden of the Potter County district, who also pitched in during his spare moments, the site selected was on plots owned by the Wellsville, Addison and Galeton Railroad Company, and one Del Zell in West Branch Township.

Present thereon was the necessary water supply—three springs, the combined minimum flow of which is 50 gallons per minute. The site is in the watershed of the West Branch of Pine Creek.

Before going any further, expert advice was sought and Dewey Sorenson, superintendent of propagation and distribution for the Pennsylvania Fish Commission sent Merrill Lillie, top man at the Commission's Corry station, to look things over. He gave the Galeton boys the nod on both counts—location and water supply.

Leases were entered into by the Club with the property owners, which included options to purchase the lands at such times as they may be put up for sale.

The next step called for a construction plan. Again the help of the Fish Commission was sought, and again Merrill Lillie was dispatched.

His proposal called for a series of raceway ponds, held now by fish culturists to be more efficient than the conventional hatchery ponds.

The raceway created, with the help of a borrowed

bulldozer, is 250 feet long, 8 feet wide and divided into five sections. At the tail of each section is a header of filled concrete blocks on concrete footers. Each footer incorporates a drain pipe to facilitate draining and cleaning. The spillway of each header is of flagstone and affords a 4" drop to the next pool. These drops allow ample water aeration for each successive pool. The water throughout is kept at a depth of approximately two feet.

As a guard to control both the quantity and temperature of the nursery water supply, a tempering pond incorporating flow regulation and by-pass facilities has also been constructed, above the nursery section. Still to be completed is a holding pond at the lower end of the project that will accommodate up to 3,000 adult trout, pending their release.

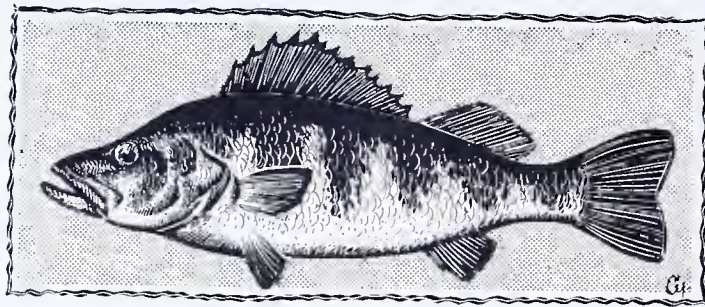
This spring, 15,000 brook, brown and rainbow trout fingerling were placed into the nursery by the Fish Commission. They have become the immediate charges of James Kennedy, retired, formerly employed at the Thorn Hill School for Boys in Allegheny County. Jim, who worked with boys for 30 years, has now transferred his ministrations to trout. He will feed them and watch over them.

Similar to the feeding program now in effect at the Fish Commission's cultural stations, the diet of the fish at Galeton will consist of both meat products and pellets. And as the phases of construction were financed by the club, so will the nursery's maintenance and operation, including fish food, be financed.

The 15,000 fingerling are a start. Experience and, of course, available funds will depend whether in the future a greater or lesser number will be in order. And success or lack of it with individual species will determine on which of the three emphasis will be placed in the future.

In any event, all that are reared will be released into Potter County waters open to public fishing.

This Creature Called A Fish



By F. H. WOODING

● According to geologists, the world is about 10,000 million years old. According to biologists, living creatures did not evolve until about 9,500 million years later, or about 500 million years ago.

These living creatures were forms of water life—the progenitors of fish as we know them today.

Later on, about 70 million years back, monkeys appeared on the scene. Man—*Homo sapiens*—is a relative newcomer, for he is believed to have developed a mere 300 thousand years ago.

And so, in point of time, fish predate by millions of years all other forms of vertebrate life—whether reptiles, amphibians, birds, mammals, or man himself. If you are proud of the fact that you can trace your ancestry back to a great-great-grandfather who fought against Napoleon at the Battle of Waterloo in 1815, think of the Garpike, which can trace its ancestry back through the eons of time to the last battles of the Dinosaurs in the Cretaceous Period about 100 million years ago!

Just when, during the course of his 300 thousand year history, man began to pay academic attention to the things around him, can be left for the anthropologists to decide, but we are told that the Greek scientist, Aristotle (384-322 B.C.), knew a great deal about fish. Aristotle was a man of many parts and although best known as a philosopher he none the less excelled in the natural sciences. He wrote extensively on the subject, and one of his major works was a study of the fishes of Greece—a study that commands the admiration of present-day ichthyologists for its astonishingly high degree of accuracy. Since Aristotle's time ichthyology (which is a branch of zoology) has become an exacting science with numerous divisions requiring specialists such as anatomists, embryologists, evolutionists, taxonomists, physiologists, ecologists and geographers, to mention a few. Modern research into fishes frequently goes beyond pure zoology and draws

upon the knowledge of geologists, palaeontologists, chemists, physicists, mathematicians and even meteorologists.

Shape is another variable. Some, such as eels, are long and slender; others, such as the Ocean Sunfish (which has been known to reach a length of nearly 11 feet) are almost oval in shape. Still others, such as flounders and halibut (which have both eyes on the same side of the head) are as flat as pancakes. There are fish, such as the Barrel-Eye and the Silvery Hatchet-Fish, that are so ugly as to be almost monstrous in appearance. Some, on the other hand, such as the fish of the tropical seas and our own rainbow trouts, are stunningly beautiful. In shape, as well as in the greatest variable of all—coloration—Nature has created a realm of the most fantastic extremes.

Habitats are also widely varying. Some fish live in icy waters of the polar regions, others do very well in desert pools where water temperatures reach 100°. Some live in the deepest and blackest parts of the oceans' great sub-terranean depths (and are equipped with their light-generating organs!); others live in surface waters, tide-pools, fresh-water lakes, rivers and streams at low and moderate elevations and in high mountain streams. Some fish manage to exist even in roadside ditches. While lack of oxygen kills most fish quickly, there are those—such as the little Banded Killifish, often used as bait fish by anglers—that if kept moist can live for days out of water.

To discuss fully all of the variables involved in a consideration of fish life would require a book in itself and, indeed, many such books have been written. The point is, one can deal only in generalities in attempting to describe a "typical" fish. This applies to size and shape. It applies to coloration, body structure, breeding habits, migration and so on. But there are certain characteristics of a permanent and constant nature that apply to approximately all fish. For in-

stance, all fish are vertebrates, are cold-blooded, have fins (or rudiments of fins), live in water and breathe by means of gills—although there are some, such as the lungfishes and Bowfin, that can breathe through air sacs, too.

Happily, however, the angler doesn't have to be any of these "ists" to acquire a workable and useful knowledge of fish. What we are interested in here is, "What is a fish?" And as Alex MacMahon suggests in his book, *Fishlore*, it isn't necessary for us to know that "the cutaneous branch of the trigeminal is typical of the Neopterygii." Stuffy things like that can be left to the scientists with the hope that they, themselves, know what it means.

We can leave to scientists, too, the difficult problem of trying to determine the number of species of fish there are in the world. Water, their habitat, covers three-fourths of the Earth's surface, and nearly all of it, whether salt or fresh, contains fish life of some kind or another. Are there 14,000 different kinds, as some scientists believe, or are there 20,000 or even 40,000 kinds, as other scientists believe? No one really knows for sure. What we do know, and with reasonable accuracy, is the number of different species inhabiting our fresh-water areas. Rivers, streams, ponds and lakes are more and more becoming open books to the ever-questioning researcher. But the oceans, the most prolific life zones of the world, still veil their secrets from

the prying eyes of man. Knowledge of life in these impenetrable depths, with their great sub-terranian mountain ranges, valleys and plateaus, is abysmal.

Among the many baffling problems facing ichthyologists are those occasioned by the variations shown in fish. Even when a situation can be described as "typical" there are often exasperating exceptions.

Let's for a moment look at some of these variations. Take size, for example. The tiniest fish known is the goby of the Philippine Islands. This little creature averages less than half an inch in length, yet it is abundant enough to be an important food fish in Luzon. From this almost infinitesimal creature the range runs to the Whale Shark (found in the warmer waters of the Atlantic, Indian and Pacific oceans) which reaches a length of at least 50 feet!

There is, of course, much more that can be said to answer the question, "What is a fish?" Even though literature is heavily weighted with masterful studies on the subject, scientists are still scratching their heads, still debating among themselves, still searching and investigating. For fish live in an environment of mystery, in a strange and sometimes beautiful world into which man can enter for only frustratingly short distances. Man may succeed in conquering outer space but he is yet a long way from conquering the water world around him—perhaps the greatest world of all!

And first, I shall tell you what I have found to be a real truth: the very sitting by the river's side is not only the quietest and fitting place for contemplation, but will invite an angler to it. An ingenious Spaniard says that "rivers and the inhabitants of the watery element were made for wise men to contemplate, and fools to pass by without consideration."—Izaak Walton





"And it came to pass after a while the brook dried up."

—First Kings 17:7

◆ Parched and thirsty lips make all humanity kin. There is a modern song which to the ears of the mid-twentieth century epitomizes the age-long, plaintive plea for cool, clear water:

"All day I face the barren waste
Without the taste of water—cool water.
Old Dan and I, with throats burnt dry
And souls that cry for water—cool, clear water.
The shadows sway and seem to say
Tonight we pray for water—cool water,
And way up there He'll hear our prayer
And show us where there's water—cool, clear
water."

There is a Biblical story of a stream that failed, the ancient record of water shortage which has gripped the imagination of the long centuries. It tells of a prophet who prayed for water. In the famine which was scourging the land, Elijah had been safe by the side of a babbling brook—his needs of drink and food supplied by water and wings, the pinions of ravens. The scene is adorned with all the brilliant colors of an old fashioned Sunday School card. And just as those gaily illumined tokens of juvenile attendance carried always a "Golden Text" beneath the scriptural portrayal, so here is the sentence which tells the ominous conclusion of a fascinating tale of the Prophet and the Brook—"And it came to pass after a while the brook dried up."

The little stream which was a lifeline for the prophet was one of the few left in the drought-plagued land. There was much suffering among the people because for so long the rain had failed to fall on fields and

forests. When in his panic Elijah discovered the brook he seemed bent on just saving himself. His was a solitary escape. At first, apparently the plight of others did not disturb his own peace of mind. He is pictured as comfortably stretched out on the green grass by the water's edge. Surely in a dry thirsty land the lines had fallen to him in pleasant places! Perhaps as the rainless days passed he noticed that the volume of the stream was diminishing. But, still, there was plenty to allay his thirst. But one fateful morning the prophet was aghast to find that his oasis of refreshment had vanished like a mirage of the desert. Where sparkling water had made the murmuring music of salvation there was but cracked and dried earth. With a wild fear clutching at his heart, Elijah found himself at wits' end—For it came to pass that the brook dried up.

What was he to do? Seek another crystal spring somewhere up in the solitudes, and save himself? Divine guidance, so he thought, had led him to the hidden place of his selfish safety. But there he had time to meditate. Let us believe that even before his brook failed his conscience had begun to trouble him. How often the Love that followest us all the way brings its lessons in pain and loss! Elijah's heart began to go out to those who were suffering the pangs from which he fled alone. The brook that failed sent him forth to join himself with others in need, and with them face the water and food situation in cooperation and partnership. He had come to sense that the authentic call of God is never to hide his servants away in selfish comfort, oblivious to the afflictions which have smitten others. There crept into the heart of the prophet a new feeling of oneness with all who were

A Brook That Failed

By FREDERICK BROWN HARRIS
Chaplain, U. S. Senate

cowering under the pitiless pall of the rainless skies. With a compulsion, before conspicuous for its absence, he crossed the boundaries of his own country and found himself face to face with those who, to him, were heathen—a woman and her son. They, in the midst of the universal want and woe, were barely able to keep their bodies and souls together. The woman, too, was at what the Psalmist called the place of desperate extremity—wit's end. Her cupboard was bare. But no miser, coward soul was hers. With the stranger who came to her door she shared her last crust—then a miracle happened. How the partnership of need solved the dreadful problem is not part of the story now. Suffice it to say, it did. And while the selfish brook had failed, the shared barrel did not.

This lovely old etching is telling us that only together can humanity win. A dear preacher friend of mine whose once eloquent lips are stilled now, in dwelling upon this story, did not go into a long explanation of how it came to pass that by pooling their efforts the trio found salvation. But, commenting about the dried-up brook and the never empty widow's cruse, he said simply: "Faith in God is not a condition to be hidden in some sacred canyon, as a personal security policy. It is rather an endowment to carry into the midst of life, with which to sustain desperate need. When woe was running down every road, Elijah joined himself to others who were in trouble. Here is a prophet who, because a brook failed, found himself. The un-wasting meal, shared with others, is of far richer significance than the hidden brook alone."

But what does this water shortage in Israel so long ago have to do with water in America in this year of our Lord 1960? Answer: very much. Even with all of the ministry of rain it has come to pass that the brooks of our water supply are drying up across this favored land. It is not that the vagabond clouds, with their precious cargo of refreshing moisture, like white-sailed barques have failed to float across the sea of azure blue. They have delivered their priceless elixir, though unequally, to the land.

Now when the distilled water is drawn from the sea it is but being taken on a journey—for some time, somewhere, it turns again home. The wise observation of Holy Writ is: "All the rivers run into the sea, unto the place where the rivers come." There would be no rain were it not for the sea and the winds. Every rain-drop is the child of the sea, drawn from that mighty and unfailing reservoir of the great deep. The grasses know nothing of the sea save as they discover the ocean and the rainfall; but without the sea it would

never come. The rain is the sea come to the plants, not in the majesty of the tides but in such little ways as even a grass blade or a flower's petal can harbor it and grow thereby.

The lake from which we channel the water to drink is fed by rains which visit continental spaces. But the refreshing boon without which we die reaches us in the cup of cool, clear water we lift to our thirsty lips. As one who stood refreshed by showers of blessing gratefully bore witness, "the harvests of life are sure when we win from cosmic tides their drops of rain."

When we, whose mortal bodies are three-fourths water, take into our hands a loaf of bread Maltbie Babcock reminds us of what is back of the snowy flour—

"Back of the flour is the mill,
(Perhaps a mill run by water)
And back of the mill is the wheat,
And the shower—yes, *the shower*—
And the sun, and the Father's will."

But even in our America there has continued, year after year, sounds of abundance of rain—that is, taking the vast expanse of the country as a whole. Yet the brooks of our water supply are drying up. One solemn reason is that like all the other riches of this continent, so prodigally endowed, man has been wasting his substance in riotous living. Senator Richard Neuberger gives a vivid bird's eye view of this wasted substance in one sweeping paragraph: "The gutted forests of the Lake States, a dozen silty dust bowls, half a thousand polluted rivers, the vanished passenger pigeon, and the slaughtered bison of the plains, migratory fish runs choked off from their spawning grounds by chemical wastes and unscreened irrigation ditches, all bear tragic witness to our failure in stewardship." In these latter years America has been sobered and alerted by the warnings sounded by men who see, about the bird life, the animal life, the river life, and the life of the land itself, denuded and eroded, as riches piled up for thousands of years run off to the sea.

And now the Nation is compelled to face the dire implications of a growing water shortage. From various parts of our vast domain is being lifted the agonizing cry—Water, water, cool, clear water! For now it has become evident that the national brook is running dry. Of course we know that there are no brooks or rivers in the Sahara and other deserts. They are dry and thirsty lands where no water is. But who would expect any concern regarding the limitless water supply of a land that has the Hudson and the Mississippi,

and the Columbia, and a thousand refreshing streams which make of our continental expanse, except for a few spots not irrigated—a watered garden? By tapping waiting water many miles from arid land, the parched places blossom as the rose as man commands the magic liquid to come hither. And if other sources fail, man has already taken the first steps, startling in their results, to wring out the salt from the boundless deep and separating it also from other ingredients make it pure and fresh, to quench thirst and quicken the parched land.

But, listen America! With all our vast water supply the situation is not as rosy as a superficial appraisal might suggest. The fact is that in 1957 more than 1,000 communities endured water shortage to some degree. In some cases there was not enough water for lawns, and in some towns not enough to drink. Reports are disturbing with regard to the underground reservoirs of water. The levels are going deeper and deeper. In a number of states wells have to go down from 100 to 500 feet deeper than they did some years ago. Need of water is a powerful and dominating influence, and the need is pressing, everywhere between the Rocky Mountains and the Mississippi Valley.

The Governor of one of our great western states recently declared that “every drop of available water must go to agriculture and industry.” To be sure, at least for the present, there is enough water if fairly distributed. But the problem is to get it where the people are and where the need is imperative. Golden southern California is thought of as a land flowing with milk and honey. But it is a startling fact that 50 cities in that enchanted region get much of their water from the Colorado River, nearly 500 miles away.

The mushrooming population of our entire country and the higher standards of living have meant an enormous increase in bathrooms and in all sorts of household machines. Every person is using 60 more gallons of water per day than our grandparents required at the dawn of the century. Industry demands 12 times more water than it did three-score years ago. Rayon, for instance, is a modern product; but like all other new things it calls for more water. A ton of rayon takes from 200,000 to 300,000 gallons of water to make. What is a mere ton of steel as it is lifted to its place in a rising building? But it takes 65,000 gallons of H₂O to fashion it. We blithely buy our bulging newspapers never realizing that a good-sized paper mill needs 22 million gallons of water a day. When you stop at a gasoline station to “fill it up,” every gallon registered means seven to 10 gallons of water for processing. Cities are discouraging industrial concerns from building factories, saying, “we haven’t the water to spare!” What the use of water for human projects is doing to wildlife was indicated some time ago when 3,000 dead ducks were piled on the lawn of one of our State Capitols in a dramatic protest against the pollution of their great river and the draining of marshes.

Some time ago the brook of water supply of New York City so nearly dried up that careless people were fined even for having leaking taps, and the use of

water was sharply curtailed. All these symptoms could be increased at least a dozen-fold in emphasizing our growing water shortage and the constantly mounting demand upon the supply.

This urgent problem cannot be solved by just lamenting about the brooks that fail. Like Elijah, we must join others facing the same problem. The water solution is a cooperative task. We, the people, must tackle it together. Water resources, without any more regard to geographical lines than Elijah showed, must be protected, conserved, and transported, to assure adequate supplies for all the needs of our expanding industrial economy, as well as to assure adequate supplies for public recreational purposes and for the conservation of precious wildlife.

It is in the spirit of Elijah, driven from his selfish brook, to take into consideration the needs of others that Congressman Chester Bowles in his recent, challenging book, exhorts what we must do now to coordinate the powers of federal, state and local government. He declares, “We must tap new water sources and provide for the more efficient use and re-use of existing water resources.” We must make an all-out attack on water pollution. And, above all, we must develop institutions which can handle land and water problems on a regional basis, including irrigation, land reclamation, and flood control projects which will correspond not to our official political boundaries, but to the special aspects of each region’s watershed and water resource needs.

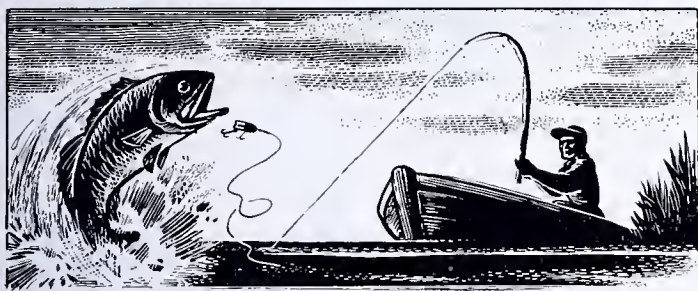
And so it came to pass when the brook dried up that Elijah went out to join his strategy of salvation with that of others. And so today, in our America, the brooks that are failing are driving us, with a sympathy for others, to face the problems that can be solved by the strength that is found only in unity of purpose and endeavor. Thus do we become workers together with God. And are we not assured regarding the Father God, from whom all blessings flow, that “He shall come down like rain,” answering in the oceanic amplitude of His Grace the cry of those who hunger and thirst after righteousness—for as the heart panteth after the water brooks, so panteth my soul after Thee, O God! And as Longfellow tells us,

“As torrents in summer, half dried in their
channels,
Suddenly rise though the sky is still cloudless,
For rain has been falling, far off at their
fountains,
So hearts that are fainting grow full to o’er-
flowing
And they that behold it marvel, and know
not,
That God at their fountains, far off, hath
been raining.”

Life is always flowing like a river, sometimes with murmurs, sometimes without bending this way and that, we do not exactly see why; now in beautiful picturesque places, now through barren and uninteresting scenes, but always flowing with a look of treachery about it; it is so swift, so voiceless, yet so continuous.—Faber

KNOT

KNOWLEDGE



● Webster defines a "line" in many different ways, but for our purposes—a discussion of the use of lines in boating, we will assume a line to be a rope used in the mooring, anchoring or towing of a boat.

Nothing betrays the inexperienced boatman quicker than the condition of his lines. This stems from the old days of the sailing vessel, when a ship's lines were one of its most important pieces of gear. Lines are still extremely important, and keeping them shipshape is just as vital in a small boating rig as it was to the sailors of ocean-going vessels.

To fasten lines we must use knots, and it behooves the outboard skipper to have a rudimentary knowledge of some of the more common knots in order to properly make his lines fast to a pier or wharf and to fasten his anchor and other pieces of equipment which must be secured.

Before a discussion of knot tying, let's take a look at some suggestions for keeping lines unsnarled and in proper condition. Neatly coiled lines, which are then properly tied together so they won't become uncoiled, save many angry moments of trying to unsnarl them. They should be coiled clockwise, and then wrapped together with the free end of the line so the coils will stay put.

Another helpful hint is either to back-splice or "whip" the ends. Back-splicing may be learned from any old salt (who might even do it for you). Whipping the ends simply means wrapping them with a strong string so that the ends cannot fray. Either way protects the ends of the line from fraying and forming what is popularly known as "cow-tails."

One of the most useful knots for a boatsman to know is the clove hitch, which is used extensively for

temporary moorings. It is easily tied, and has the added advantage of holding tighter as the pull on it gets harder. It also resists slipping down a post or piling.

In making fast to a bollard, stanchion or timber, a good method is the use of two half hitches. What this amounts to is one turn around the object and then a clove hitch on the standing (or holding) part of the line. A half hitch is also useful in making fast to a cleat. Simply pass your line around the neck of the cleat and then take a half hitch over one of the projections. If the half hitch that completes the fastening is taken with the free end of the line, the line can be cast off without taking up slack on what is known as the standing part.

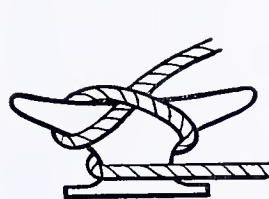
When a secure noose is needed for tying up to a post or piling, the bowline is a solid knot to use. Alternate tension and slack will not loosen this knot, which can also be used to fasten a line to an anchor.

Another secure knot for making a line fast to an anchor or to a buoy is the fisherman's bend, used frequently by fishermen in fastening light lines to fishing gear.

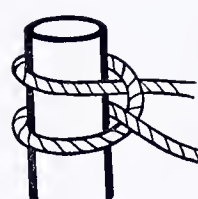
The square knot, which everyone learned to tie when a kid, is used to tie lines together or for any other use where a solid fastening, which will not slip, is desired. It has many uses in boating.

A close relative of the square knot is the sheet bend, which is also used to tie lines together, and is especially useful in tying together two lines of different thicknesses.

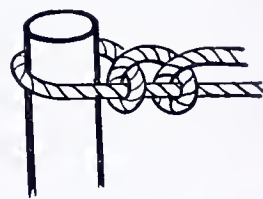
Using the illustrations given here, it might be a good idea to practice tying some of the more common knots. Some day you might be happy you did.



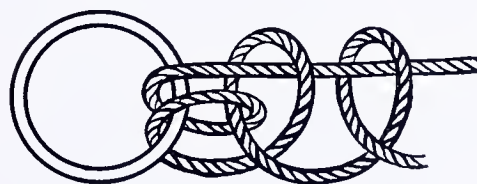
MAKING FAST TO CLEAT



CLOVE HITCH



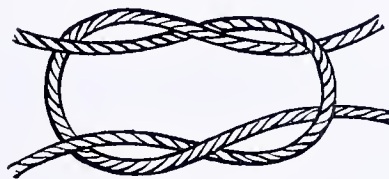
TWO HALF HITCHES



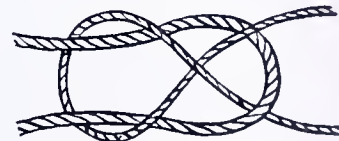
FISHERMEN'S BEND



BOWLINE



SQUARE KNOT



SHEET BEND

EVERY BOATMAN should have a knowledge of knots, and a good suggestion for any boat owner is to practice tying several of the knots shown here in order to be prepared when the need for the proper knot arises.



To the uninitiated—and particularly to the non-fisherman—the fly-fisherman must appear to be a strange breed, indeed. Once he passes the novice stage and achieves a degree of proficiency in his sport he becomes interested not in just the catching of fish in general but in particular ways to catch particular fish.

He refines his gear until he is using the lightest of rods and the finest of terminal tackle. Often he fishes the dry fly when he knows full well that conditions warrant another method. Sometimes he passes up a riffle full of eagerly rising trout to concentrate on one real “toughie” in the flat water upstream because the challenge is there and he would rather catch one difficult trout than a half dozen easy ones. Generally you will find him carrying a camera instead of a creel because he is fishing for sport, not meat, and he would rather have a live trout on color film than a dead one in the freezer at home.

All these whims are self-imposed by the angler, not to make him appear sophisticated as some might think, but because he is constantly seeking new ways to add the element of high personal satisfaction to his sport. He knows that pure pleasure is his biggest gain in fly-fishing and the methods he uses are tailored to give him the highest degree of satisfaction.

Yet, with all the refinements available in tackle today, a very obvious one is frequently overlooked: the barbless hook. If you have never tried barbless flies, I can heartily recommend them to you if you are looking for ways to get more fun out of your fishing.

To the barbless hook advocate there are several considerations motivating their use, the most obvious being the conservation angle: the ease with which small trout can be released unharmed, to furnish future sport.

But what about big fish? Is it worthwhile to jeopardize one's chances with those all too seldom big trout, just to be able to release small fish safely?

I say that the gamble, if any, is practically nil. A case in point is the famous Spring Creek Project near

A Case for the

Bellefonte. The Paradise is so widely known that it seems almost needless to mention that one of the prime regulations governing the fishing there requires that only barbless flies be used. Yet, if this can be termed a restriction, it certainly doesn't inhibit the thousands of anglers who annually fish these waters. Of all the fishermen of my acquaintance who regularly fish the Paradise, I have yet to hear a complaint that barbless hooks are a detriment to the hooking and landing of these big trout.

As long as slack line is reasonably controlled in playing a fish, the barbless hook remains lodged as effectively as a conventional barbed hook. Actually, it is much easier to maintain an even pressure on a heavy fish than on a very small one—and besides, if the occasional small trout shakes free, who cares?

In many cases a large barb can hinder quick penetration, and I firmly believe that a great many large fish which are lost during the first few seconds of play gain their freedom simply because the hook never penetrated beyond the barb. Conversely, the needle point of the barbless hook penetrates to the bend with a minimum of striking force and an even tension on the line keeps it there. Even when a conventional hook has penetrated beyond its barb, the barb has an auger effect, constantly tearing a wider hole with every twist and turn exerted by the hooked fish. This may not be so serious with average sized trout, but in the case of a heavy, long-winded fish, the hole in his jaw becomes torn open to the extent that the fly will often drop out, should any slack occur.

The fisherman who doesn't tie his own flies can debarb his hooks by filing them down with a small flat file or by squeezing them flat with small pliers. The fly tyer can make his hooks barbless by either of these



Barbless Hook

By CHAUNCEY K. LIVELY

methods or he can purchase barbless hooks made especially for fly tying. Several years ago Paul Young introduced us to the needle point barbless hooks as produced by the big Norwegian hook firm and these are ideal for barbless flies.

For those who ply their quarry with ultra-light tackle and tiny flies come the happiest surprises when their midge flies are tied on barbless hooks, for these little gems penetrate at the merest touch, preserving gossamer gut that would surely be broken by a heavier strike, and they maintain their hold almost unbelievably. Big trout suck in the tiniest of flies with great confidence and hooking often takes place well back in the throat of the fish, a condition which usually calls for surgery if the barbed hook is to be extracted. Fragile things at best, the little flies will not stand much man-handling with tweezers—and lives there a fly tyer who spends many a distraught hour making the minute stuff who will put up with having one of his little masterpieces mauled beyond further use after the taking of one fish?—Not so with the little barbless hooks, for no matter how deeply they are lodged, a slight backward pressure against the eye of the hook disengages the fly and a quick swish in the water, a few false casts, and it is ready for new conquests.

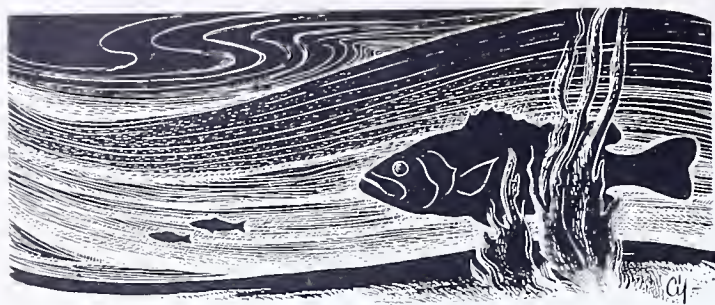
After having used barbless bass bugs for several seasons in the pursuit of both largemouthed and smallmouthed bass, I'm convinced—as in trout fishing—that the advantages are many and the hazards are practically non-existent. The better penetration of the barbless hook manifests itself even more in the case of the tough-mouthed bass than with trout. At first thought it might appear that these high-jumping, head-shaking fish could throw a barbless bug more readily

than a conventional one, but it just doesn't happen that way. I have many a happy recollection of tough, rampaging river smallmouth which came to net via the barbless bug and I can't think of a single loss attributable to its use. And there have been many similar encounters with largemouthed bass from lakes in Pennsylvania and Canada.

If you have occasion to teach fly-fishing to a beginner, the barbless fly should be a must because accidents will happen at times and the lodging of a barbless hook in an inappropriate place in the flesh generally is of no more consequence than a simple pin prick. Besides, when beginners—and particularly children—are initiated into the sport with barbless hooks, they generally stick with them as they become more advanced, and they develop a degree of sportmanship that many fishermen do not achieve after years of experience.

If you have never tried barbless flies and still have some doubts about them, let me suggest three fishing trips where you will have absolutely nothing to lose. First, plan a trip to the Paradise, where you *must* use barbless flies. Then, just to prove the first trip wasn't a fluke, take a second trip to the Paradise and catch some more of these grand, big trout. Next, take a trip to the Left Branch of Young Woman's Creek, where every fish caught must be carefully released. Here you will be fishing only for fun, using only flies, and although barbless flies aren't required here, try them anyway and see for yourself how easily these fine trout can be released and how effectively the little barbless flies hook and hold fish.

After these three trips with the barbless flies I'm certain that you'll find an added pleasure in your fishing and you'll be ready to go barbless.



Spinning -

WITH THE CURRENT . . .

The objective of conservation is to manage the natural resources so they will endure and continue to support our civilization. Some of these resources, such as land and minerals, cannot be renewed, and require frugal use. Other resources, such as forests and wildlife, are renewable, but require able management. All of the resources are besieged by pressures from the rapidly accelerating civilization but blind resistance to those pressures will not achieve the goals of conservation.

Conservation policies must be flexible and ready to adjust to inevitable changes but always resisting misuse and wastefulness.

Land is not only soil. Land is life. The only true strength of a nation is the land upon which its people walks.

Rules, Laws and Police Controls are not enough to teach the people their relationship to the land with which they live. Education is the only answer.

In past days, wilderness was something alien, something to be conquered—and we are proud of our achievements in this direction. But today, we find that our thinking must change. Our efforts now are aimed at restoring the wilderness which, such a short time ago, we destroyed.

It will not be long before America will need at least forty times as much recreational space as is now available. This fact must be driven home to the people—and it is no use lecturing. Lecturing is simply pounding ears. To really learn, people must go out and see for themselves. It is only then that what they learn is properly understood and is not easily forgotten.

"The time has come when all lands, no matter what their classification, must be administered in such a way that they will fulfill as many functions as possible, but in the fulfilling of those functions, still preserve the ideal that the highest use is the effect these lands have on the spiritual well-being of our people.

"We can no longer afford such single use practices as mining, draining wetlands, stripping forests of their timber, changing water levels and polluting streams without regard for the overall impact on human lives. It may well be that preserving the beauty and the character of our land is in the last analysis our most important responsibility. . . . It is well for us to remember that the basic resource we are conserving is the human spirit and the potential happiness of our people."

● This season tackle displays show more ultra-light spinning tackle than ever before. How light is "ultra-light"? What makes this extremely light tackle so much fun? Is it a practical method for taking trout and other gamefish? What kinds of tackle should be used?

"Ultra-light" does not necessarily mean "tiny" tackle. It is a relative term; the size or power of the tackle depending on what species of fish we intend to catch; how big they are, and what we shall encounter in the way of currents and obstacles. Tackle that may be ultra-light for sailfish, for example, certainly would not be considered ultra-light for small trout!

Among French anglers there is a cult of ultra-light spinning fishermen which we might term the "Ten To One Club." To qualify, one has to catch a sportfish which weighs at least ten times as much as is the strength of the line that caught him. Once I caught a sailfish on eight pound test monofilament. He didn't qualify because he weighed less than eighty pounds. Once I caught a big rainbow trout on six pound test monofilament. He weighed over thirty pounds, but he didn't qualify either. To qualify, I should have caught him on line that tested three pounds, or less. Obviously, the conditions under which many fish exist makes the ten-to-one ratio impossible, but it still is surprising how many species qualify, under reasonably favorable conditions.

My own definition of ultra-light may seem more sensible. It is the use of tackle so light the fish has an equal or better chance of getting away than the angler has of catching him. Sure, you will lose a good fish once in a while—and occasionally your lure and some line. But think of the thrills and suspense you will have—and the challenge to your skill and your tackle!

As an extra added inducement, lighter tackle seems to hook more fish than heavier tackle. Most of us use spinning lures usually too large, and lines too visible. It has been proved time and again smaller lures usually take more fish. Ultra-light spinning tackle is ideal for casting these lighter lures amazing distances.

A prime requisite in enjoying ultra-light spinning is to obtain one or more properly matched sets of efficient tackle. While all elements are important, the selection of a reel is undoubtedly first. It must be one of the open-spool type, with a very smooth brake having wide latitude of adjustment; a rapid ratio of line retrieve, and ample line capacity.

Those who want really ultra-light tackle, using line strengths below two pounds and lures in the 1/8 ounce class, or lighter, should be interested in the "baby" spinning reels such as Rockland's "Mignon 33" and the Alcedo "Micron." Recently, C. F. Orvis Company,

... light is ultra-light?

By **JOSEPH D. BATES, JR.**

Author of
"Spinning for Fresh Water Game Fish"
"Spinning for Salt Water Game Fish"
"Trout Waters—and How to Fish Them," etc.

of Manchester, Vermont, came out with a very practical little reel weighing only 8 ounces, called the "Orvis 300." I find myself using this small reel a great deal recently, particularly because it is the only one I know of ideal for handling lines and lures extending from the very light into the medium classes. Its brake is so smooth it handles lines in the two pound test class excellently, along with the smallest of lures. It is light enough to fit ultra-light rods, and yet it has the strength and capacity to handle stronger lines and heavier lures, as well.

In selecting a spinning reel for any purpose, it should be remembered that both line-spool diameter and rate of retrieve combine to help get the line in when one needs to retrieve it fast. The "baby" reels necessarily have very small line spools. On the other hand, the "Orvis 300" has a line-spool with an effective diameter of $1\frac{3}{4}$ inches, plus a rapid retrieve ratio of 4.2 to 1. Thus, while not a miniature reel, it is a very small one which can be used for casting the lightest lines and the smallest lures the average light tackle addict would consider practical. Also, its extremely sturdy characteristics and precision construction adapt it to stronger lines and heavier lures. For example, it holds 275 yards of six pound monofilament—more than enough for all usual purposes. Thus, while it is an excellent reel for small trout and bass, it has the stamina for the "big ones," as well. It has taken tarpon of 97 pounds and steelhead of 17 pounds, among other big ones—which should be recommendation enough for anybody!

Reels which are available in sets are very popular today. An angler selecting his first reel should determine that other sizes of the same make can be obtained later. The "Orvis 100" is slightly larger and two ounces heavier than the "300." Strangely enough, it doesn't hold quite as much line as does its younger brother.

Heavy duty spinning reels rarely are needed in fresh water spinning, but they are highly advisable for big fish in salt water. An example of one of the big ones

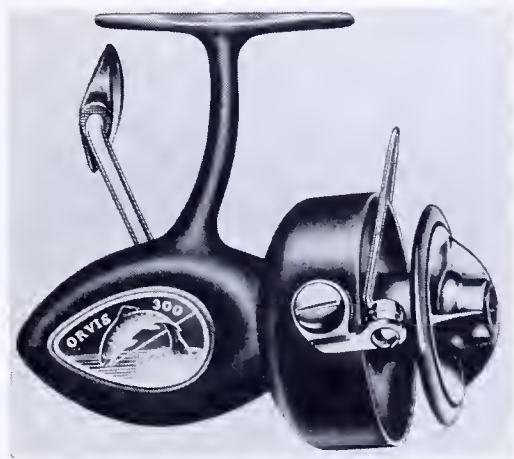
in the set being mentioned is the "Orvis 200," which weighs 18 ounces and which holds over 400 yards of ten pound test line. This type of reel is sturdy enough for the roughest, toughest fishing which spinning lines can stand—sailfish included!

I get so many letters from left-handed anglers that a word about left-handed reels seems appropriate. Select a left-handed reel you know is especially made for the job—rather than a reel wherein the handle merely has been put on the other side. A left-handed reel, if properly made, calls for almost complete interior reconstruction. The Model 300 Orvis reel is available in Model 301 constructed especially for left-handed anglers.

Regardless of the strength of tackle used, lures neither should be too heavy nor too light for the line, or for the rod. Extra reel-spools carrying two or three varied line strengths enable anglers to select a line which will allow longest casts without danger of the lure snapping off. Monofilament lines now come in a wide range of sizes. The famous "Water Queen," for example, is available in 15 strengths ranging from $1\frac{3}{4}$ lbs. to 24 lbs. Rockland's "Tortue" comes in even smaller sizes.

Manufacturers such as Orvis and Rockland, both pioneers in the light tackle fields, provide valuable free booklets explaining latest information on spinning tackle. One of the finest booklet I've seen is a large 68 page brochure offered by Charles F. Orvis Co., Dept. "B," Manchester, Vermont. This booklet illustrates and describes the best in tackle for all purposes, and contains many helpful articles written by famous anglers. All one needs to do is write for it. It's free!

We might sum up all this by abusing a well-known slogan. For today's fisherman who uses either the spinning rod or the fly rod, it's "Be Happy—Go Lighter." Lighter tackle becomes more popular every season. The answer seems to be that it's a lot more fun to give the poor fish at least an even break. Incidentally, you'll get more strikes that way, too!



WORLD'S SMALLEST reel is name often applied to the new Orvis #300. It is very light, ideal from very light to medium spinning power. It's #301 counterpart is especially constructed for left-handed casters.

Spinner Flies

and how to tie them

By DON SHINER

◆ An eventful day in angling history happened nearly 50-years ago when John Hildebrandt pounded a worn dime into a thin disk and fastened it to a hair pin. It was to be one of the world's first spinners. Little did he realize at the time a crudely made spinner would develop into one of the world's best game fish lures. Today most anglers are aware this leading lure produces great results with practically every kind of fish that swim in the lakes and streams of Pennsylvania.

Trout, bass, pike and pickerel, walleyes, perch, rock bass, channel cats, fallfish and even bluegills fall pray to the tantalizing spinning blade. And it is readily understood why this lure is so appealing after several minutes are spent closely observing a spinner and fly combination in action. Spinning so freely in the water, the lure creates the illusion of a minnow with the sun rays dancing and glittering against its metallic-like scales as it swims playfully about in the pool. And the appeal does not stop there. Considering the sensitivity of fish to underwater vibrations, which fish may interpret as sound, it is possible the spinning blade creates vibrations that have a definite appeal to them. Fish will strike a spinner in total darkness and will strike a translucent plastic spinner. All of which points out that vibrations transmitted from the whirling blade spinning through the water are highly attractive to fish.

Since Hildebrandt's first crudely made spinner, literally hundreds of different spinner designs have developed. Some designs are pear-shaped, like the famed Colorado. Others are elongated like a leaf from the willow tree; others are oval or fluted, or resemble an airplane prop design. Each of these styles has merit. Some spin more freely than others due to the general shape and thickness of blade; some give a better picture of a minnow in the water.

Occasionally spinners are used alone, with only a bare treble hook dangling in the rear. Others are equipped with flies of gay patterns. Both are readily acceptable to fish, though the addition of the fly definitely gives an edge to this arrangement. While the history of the spinner blade can be traced to Hildebrandt, and perhaps a few other early 19-century fishermen, how the fly became added to the spinner has never been satisfactorily explained. The addition of a fly gives color to the spinner blade. And perhaps it is this bit of color that makes the lure even more appealing to game fish. Such fly patterns as the Colonel Fuller, Grizzly King, Parmachene Belle, Yellow Sally, Orange Fish Hawk and many others are especially good. If these flies are fitted with weed guards, the lures can be cast among lily pads, beds of weeds and

old stumps where fish naturally harbor, without fear of getting hung up.

This brings us to the main point of this article—how spinner flies are tied. Obviously it is more fun to catch fish on lures which the angler creates, not omitting the facts that such fishing sidelines are fun and exciting, and also reduces the cost of a wide assortment of these lures. In most cases the bare spinner costs only ten to fifteen cents, while the spinner and fly combination costs several times this amount.

There are several dozen styles of hooks used in fly tying, but only one is suitable for the spinner fly. This is the type known as ringed eye hook; those having straight eyes. Hooks which have the eyes bent upward or downward are not suitable since these ride at an angle behind the spinner blade and prevent them from swinging about freely.

Aside from this type of hook, the spinner fly is tied very much like a wet fly or some of the streamer or bucktail patterns. Pause a moment and glance at the illustrations. Note how the hook is placed in the jaws of the vise, then, with the aid of a short piece of thread, a feather is tied in place to serve as the tail. Next a short length of silk floss material, together with a piece of tinsel ribbing, are tied to the hook. First the floss is wound around the shank to form the fly's body. Then the tinsel is wound spirally over the floss. The tying thread is then knotted around the ends of this material near the eye to prevent the body from unraveling.

Adding the wings is the next operation. Long hackle feathers are used in the illustrations but a variety of animal hair is also popular. With the wings in place, throat material is added and the fly is complete.

Several dozen spinner flies, all different in pattern, can be tied during a single evening. Then, with the investment of a dollar or two for a dozen small spinners, the angler is equipped for many pleasurable hours on Penn's streams.

If I had to limit myself to one lure to be used with a spinning rod for trout and bass, without hesitation I would narrow the selection down to the spinner and fly combination. (Amen. Ye Ed.) I have felt this way for many years. (Me too—Ye Ed.) And this partiality came about through the great quantities and varieties of game fish which have been creelied in that time.

I especially prefer the spinner and fly for the small-mouth bass. Unlike its near cousin, the largemouth bass which readily takes to big wood and plastic plugs, the smallmouth is by far the most difficult to take on artificial lures. But this short-jawed bass will readily hit a spinner and fly combination, even after refusing lively live baits that were drifted past its lair. But, of course, this is nothing new to a great majority of Pennsylvania anglers. They know full well the merits of this fly and spinner combination.

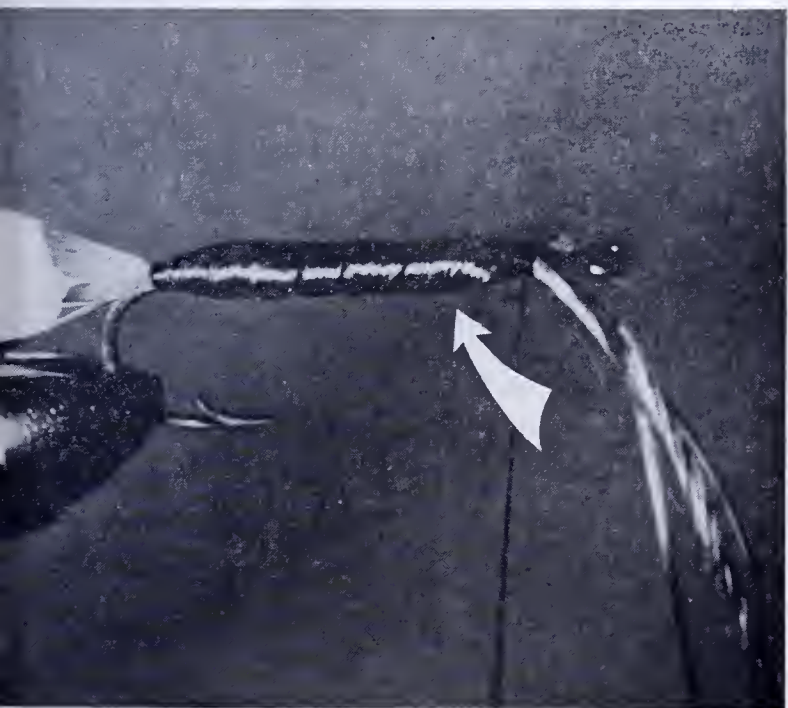
What they may not know, however, is the ease in which spinner flies are made. I am certain they would enjoy making their own feathered hooks and will take on this added activity after viewing these how-to-do-it photographs. It will certainly add immeasurably to their fun astream.



FLY TYING KITS have ample material to tie hundreds of spinner flies. Best hook is ringed or straight eye. Select feather for tail, tie in place by wrapping thread around it. Cut off surplus material.



NEXT STEP, tie floss and tinsel to shank of hook.



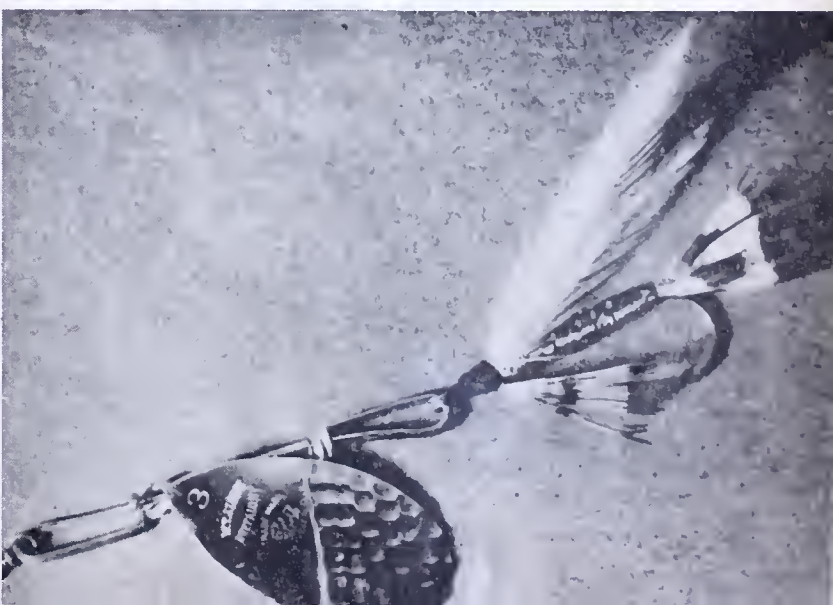
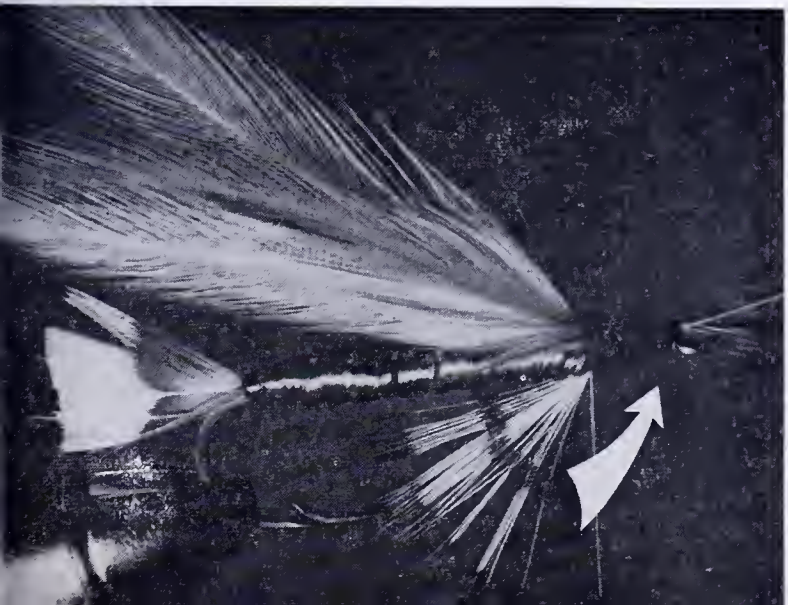
BODY OF FLY is made from this material wound around shank of hook. Some anglers say flies need little or no body while others lean toward tassels and tinsel. Looks good!

FIBERS from a feather are tied in below eye to serve as throat or gills of fly. Knot the tying thread securely and fly is complete.

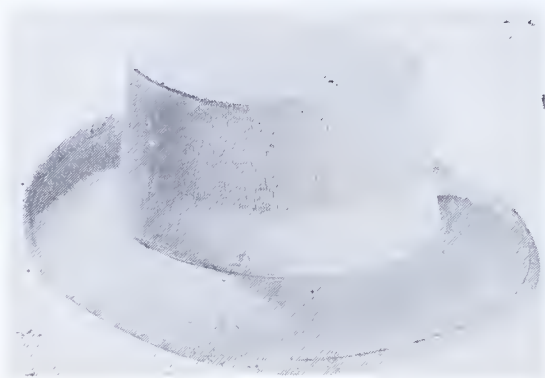


SEVERAL HACKLE feathers are selected for wings and tied in just to the rear of the eye of the hook.

COMPLETED SPINNER fly is ready to snag a variety of fish, is widely used by most fishermen.

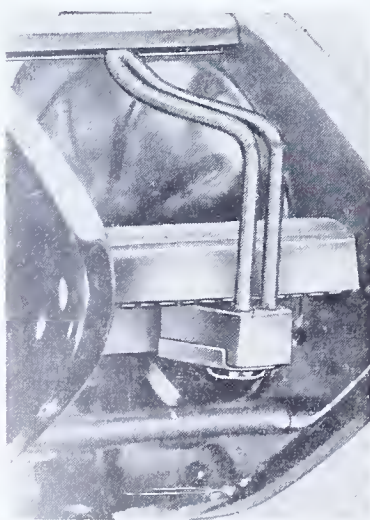


NEW THINGS *in* TACKLE and GEAR



For Cooler Heads

Keeping a cool head, figuratively at least, is now possible with the new line of "Vapo-Cool" sports headwear with a built-in cooling system that turns 90 degree heat to a cool 75 degrees. It's accomplished by the same evaporation principle that is employed in the "desert refrigerator." In place of the usual sweat band and all its disadvantages, these head pieces have soft, pliable and cool bands of aluminum, behind which are strips of cellulose and insulating material. Simply by a liberal wetting around the outside of the cap or hat at the sweat band, the cooling process is started and lasts from 4 to 6 hours. Another wetting starts it all over again. The line consists of 5 styles—golf and legionnaire style caps; a visor style; a sport hat and a tropical helmet. All are of completely water proof material and water need never touch the head. Henschel Manufacturing Co., St. Louis 3, Mo.—C.R.G.



New Heavy Duty Level Wind Reel

The status quo in basic designs of level wind reels recently has been terminated with a combination of features in Ocean City "Topsail Minoline" reels for fresh or salt water casting or trolling. Feature—a level wind that remains stationary during the cast, re-engages automatically on retrieve, thus reducing wear by 50% on this first-to-wear-out part. Feature—a free running spool unhampered by gearing that allows 15% more distance of cast. Feature—a stainless steel pawl for which "wears twice as long as conventional pawls" is claimed. Feature—a refined anti-backlash control which permits "hairline" adjustment for any weight rig. Feature—a fluted spool which better withstands the pressure of monofilament line. Available in 150 yard 15# monofilament capacity; in 225 yard 15# monofilament capacity. True Temper Corp., Cleveland 15, O.—C.R.G.



New Ripple

One of the most popular spinner blades is the "Indiana" design. In addition to casting easily and spinning freely on the retrieve, it is wide enough to provide a full measure of flash in the water.

A new variation is being offered by Weber of Stevens Point, Wis. It's the "RIPPLE" Indiana Spinner with the metal blade formed in a series of crosswise corrugations. From any angle, the "ripples" catch and reflect a great deal more light than the conventional blade. This is the kind of scintillating sparkle that attracts those feeding fish!

"Ripple" Indiana Spinners are made in single and double styles, and in five blade sizes ranging from the small 00 to the large size 3. They're plated in gold or nickel, and both finishes are highly polished and carefully burnished for extra brilliance.

All are constructed with the new positive catch that snaps open at a touch, yet holds securely when locked. Ease of handling is promoted by the short shaft. The blades are thin, with smooth edges.



A Boon to Flash Lights

The "space age" is now ready to move into your flash light in the form of a re-chargable battery cell the type of which is still functioning in the Explorer "Paddle Wheel" satellite, among other space vehicle and jet plane uses. However, instead of being recharged by solar energy, this is an industrial version that can be re-charged simply by unscrewing its plastic cap thereby bareing its A.C. prongs which may then be plugged into any 110 V A.C. household outlet. Each Sonotone rechargeable flash light battery takes the place of two "D"—style standard flashlight batteries. It can be recharged hundreds of times and each time add but a few cents to your electric bill. A 16-hour charge will provide up to 3 hours of steady, bright light. With it, gone is the need to replace batteries and gone is the possibility of leaking and swelling cells that have ruined many flashlights. Available in two models—the heavy duty industrial model the standard home use model (90 minutes of light per charge). Sonotone Corp., Battery Division, Elmsford, N. Y.—C.R.G.

Ed. Note—We are interested in presenting new things in tackle & gear of interest to our readers. Makers of tackle & equipment in Pennsylvania and throughout the nation should write the editor details enclosing good glossy illustration if possible.

"THE SUSQUEHANNA SHAD—A HISTORY AND A FUTURE"

By Edwin M. Barton

Volume 1, number 1, of a projected pamphlet series (*THE COLUMBIAN*) published by the Columbia County (Pa.) Historical Society, Box 475, Bloomsburg, Pa. 22 pages in soft cover, 30c postpaid.

The extreme interest generated in recent months on Susquehanna River fishing and the passage of migratory fishes via fish ladders makes this a most timely publication. It does what its title implies—traces the history of the shad in the Susquehanna River and poses the future prospects of their up-river spawning runs. The latter of course is predicated on controlled fishing, pollution abatement and power dams passage.

The booklet actually is but a brief presentation of the subject though it whets the appetite to refer to the many books and papers written on the shad since the turn of the century, all of which are listed in its bibliography. Actually, the bibliography alone is worth many times the cost of the booklet for those who would delve deeper into the subject.

FIND A CAREER IN CONSERVATION

By Jean Smith

160 pages. Illustrated in black and white. Published in 1959 by G. P. Putnam Sons, New York City. Price \$2.75.

One of the most oft asked questions of the education division of the Pennsylvania Fish Commission by Boy Scouts and other boys of school age concerns the procedures in preparing for a career in conservation and the prospects that are or will be presented in that wide field of endeavor.

For the first time, all the answers are contained in one book "Find A Career In Conservation." It treats the requirements in subjects and school credits starting with high school through College and post graduate work. It discusses the wide range of opportunities both for placement and as to the type of work. The latter includes the laboratory specialist with equipment from test tubes to electronic gadgets, to the air drop of the forest fire fighter.

It is essentially a book for young readers, definitely non-technical and written in simple, direct prose. One of its main features is its honest treatment of the attractions and disadvantages of these demanding but rewarding careers.

BOATING HAND BOOK

Edited by Larry Eisinger. 142 pages, 6¾" by 10". Illustrated in black and white. Published by Arco Publishing Co., Inc., 480 Lexington Ave., New York 17, N. Y. Price \$2.50.

A creditable addition, in fact a must, to the library of any boater from the pram to cruiser owner. Boating Handbook is a "how to" type of publication that crowds more into fewer pages than is usually done. The list on its jacket is only a portion of the subjects it covers in 42 separate features or chapters. Careful editing and profusely illustrated with over 300 photos, line drawings and plans sketches make this possible. In total it contains thousands of hints for happier and safer boating, plus the best method to buy, build, maintain and operate a boat. A first hand idea of its manner of subjects' presentation can be gotten by scanning a copy of *Mechanics Illustrated* magazine, from which its features by top boating author-authorities have been re-printed.

NEW BOOKS on FISHING

FIELD GUIDE TO AMERICAN WILDLIFE

(East, Central and North) by Henry H. Collins, Jr. 683 pages. Illustrated with over 200 photos, sketches and maps—740 species in full color. Published by Parker & Bros., New York City, 1959. Price \$6.95.

Whether for a youngster in his first awareness and curiosity of wildlife or a student in natural science or an adult interested in natural history or the objective ecologist, this guide combines in one easy to understand and use volume the pertinent data of all the familiar and principle species of birds, mammals, reptiles, fishes and marine invertebrates present on the North American continent, east of the Rockies and north of the 37th parallel extending from the Carolinas to Oklahoma. In total, 1439 species are catalogued.

Others for whom Field Guide to American Wildlife will prove a fine companion are sportsmen, writers on outdoors subjects and bird watchers. Of particular interest to bird watchers are the 16 color plates of scores of birds and their eggs.

Smaller than the average bound book (4¾" x 7½") makes it easy to carry afield in creel, pack or jacket for immediate reference. And quick reference to each section is made possible by an indexed guide on the inside front cover spread and correspondingly marked page edges.

Along with illustrations and written descriptions of the subjects, their foods, habits, and calls of those that are vocal, are presented and the ranges of most are shown with maps.

Though author Collins is an authority in his own right, he has drawn on the knowledge and experience of a 4-man advisory board of experts in the natural sciences to assure accuracy. Also brought together has been the talents of 3 noted wildlife artists.

It could be expected that a guide of such detail for one wildlife "family" would cost about half the price of this hand book. To find 12 "families" covered thusly makes its cost another of its attractive features.—C.R.G.

PRACTICAL FRESH WATER FISHING

By Francis E. Sell

194 pages and index. Illustrated in black and white. Published by The Ronald Press Company, 15 E. 26th St., New York 10, N. Y. Price \$5.50.

The title of the last chapter of this book—"Good Fishing Begins at Home"—is the key to "Practical Fresh Water Fishing" and, for that matter, the key to better fishing success.

Author Sell has drawn on his own wide fishing experience over many years in compiling his book. He takes the reader through all fishing methods from bank fishing with a baited throw line for catfish to plying a rushing river with a dry fly for steelheads.

The first chapter plays a most receptive tune—"Heavy Creels From Crowded Waters." From there it goes into tackle and its use, fishing methods and fishing lore all of which are woven together in a manner that is easy to read and understand and makes this book not only highly entertaining but one that is most instructive over a wide range of fresh water sport fishing.



REMEMBER when they gathered up the cans of trout at the Pleasant Gap hatchery in the early 1900's, thence via horse-power-locomotive-horse power again to the stream. Things moved slowly, anglers thought a 12-inch fish was a monster in those bygone days, yet even then cans of fingerling trout could raise the blood pressures of anglers more than a generation ago.

—May the roads rise with you, and the winds be always at your back, and may the good Lord hold you in the hollow of his hand. . . .

1,000 Youngsters at Little Lehigh Fish Fun Day

Twenty-two children from Wiley House, the Good Shepherd Home and Allentown State Hospital and 934 sons and daughters of members of Lehigh Fish and Game Protective Association all got into the act. The act being a fishing fun day recently held on the Little Lehigh stocked previously with 2,500 trout for the event. Tim Roach of Allentown and Kathy Milsits of Bethlehem took top awards for their catches.



FISH WARDEN'S DAUGHTER with her \$50 bond didn't make it photographically in July issue story but here is Virginia Yoder, daughter of Warden Jim Yoder, very proud of her prize, as winner in State Essay Contest.

HARRISBURG OPTOMISTS OPEN 1960 FISHING ACTIVITIES AT ITALIAN LAKE

Italian Lake, Harrisburg, was opened to youngsters on June 21 last. According to O. A. Smith, Jr., of the Harrisburg Optomists Club more than 600 kids have registered so far for the regular Tuesday evening and Saturday morning fish feasts until school commences in September. Youngsters are instructed in the art of angling as well as urged to become good sportsmen astream.

KID STUFF but the entire proceedings are important to Greig Hoar, age 6 of Harrisburg, and Karen Kendall, age 9 of Greencastle, Pa.



ITALIAN LAKE, overall view of kids activity. Large crowds of youngsters are regular customers at the lake.



HOUSE FISHERIES COMMITTEE ANSWERS SOS ON SPRING CREEK POLLUTION

The House Fisheries Committee went right to the seat of the trouble at Spring Creek recently when the group held a session at State College, in an immediate effort to get things moving to clean up pollution factors in the stream.

The meeting was attended by State College and Bellefonte officials, Fish Commission experts and interested parties in addition to members of the House Committee.

Vitaly concerned with the problem, Fish Commission spokesmen painted a picture of the possible total loss of Fisherman's Paradise, Spring Creek, and all hatchery facilities located thereon plus the fact some 47 persons working at the threatened hatchery would be unemployed as a result.

Following the talks, Committee Chairman William B. Curwood said, "This (pollution problem) . . . is all in the family . . . let's keep moving . . . clean it up!"



POINTING OUT working problems in sludge basin at University sewage plant is Marlin Wilt, Department of Health, District Sanitary Engineer, to investigating committee, from left to right: Arthur Bradford, Fish Commission, Joseph Critchfield, Commissioner, Fish Commission, Keen Buss, Fish Commission, State Rep. Harris G. Breth, Dr. Albert Hazzard, Asst. Director Fish Commission, Dewey Sorenson, Fish Commission, Gordon Trembley, Fish Commission, H. R. Stackhouse, Acting Executive Director, Fish Commission, State Rep. Lester H. Zimmerman, State Rep. James E. Willard, State Rep. (Center Co.) Eugene Fullmer, Marlin Wilt, State Rep. William B. Curwood, Chairman of the Committee, State Rep. Samuel W. Frank, State Rep. H. H. Perry and State Rep. Charles J. Jim.

NATIONAL WILDLIFE FEDERATION SCHOLARSHIPS OFFERED

The National Wildlife Federation and State Affiliates offer a number of Scholarships and Fellowships to qualified individuals studying in the field of conservation education. Activities that might be considered appropriate include: Resource Management, Teacher Training, Radio and Television, Scouting and Conservation, Curricular Problems, Farmer-Sportsmen Relationships, Conservation Workshop Techniques, Textbook Development, Journalism and State Programs.

The undergraduate grants are up to \$500 while the graduate student and fellowship range up to \$1,000. Application blanks and further information can be gotten from Executive Director, National Wildlife Federation, 1412 16th Street, N.W., Washington 6, D. C.

Cast all your cares on God; that anchor holds.

OUTDOOR WRITER HONORED

OUTDOOR WRITER, ROGER LATHAM, of the Pittsburgh Press was cited recently at the 38th annual convention of the Izaak Walton League of America for his outstanding service to the cause of conservation education. He received the League's public information and conservation education Honor Roll Award.

Anything can happen—and usually does—when an adult tries to out-guess a youngster with a fishing rod in his hands.

A few days ago a certain father took his son to a fee-fishing lake. (Names are withheld to avoid any additional embarrassment for the unhappy parent). The father's plan was to pay the standard fee of \$6 for the privilege of fishing. It was understood that the angler would use barbless hooks and return all fish to the water without harming them.

The youngster, as might be expected, wanted to get into the act, too. After considerable begging and nagging on the part of the boy the father agreed to let the youngster hang a plug on his play-model outfit.

"He won't catch anything anyway," were that fellow's too-quickly uttered words.

Needless to say, on the first catch the youngster hooked—and good and deep at that—a real lunker. Before the astounded parent could rescue the trout the youngster dragged it far up on the bank. It was injured and of course could not be returned to the water.

At \$1.40 a pound the six-pounder was so expensive that the fishing trip ended then and there.—Roger Latham

"THE NEWLY ACQUIRED property at Corry contains ten acres, fine timber, a splendid fall of land and a number of very large springs. Ponds admirably adapted to the culture of muscallone are possible."

—Report WM. BULLER, 1901

A CASE OF REAL CORN . . .

Members of the Gem City Sportsman's Club bought a case of sweet, yellow, whole corn. Not to eat. They got the idea of seining carp from Lake LeBoeuf, Erie county and had a plan for removing some of the critters to improve game fish conditions the easy fun way!

Warden Norman Ely contacted Fishery Manager, Bill Daugherty, Pennsylvania Fish Commission and plans were laid to waylay the carp. The Gem boys agreed to help spread the news (pardon, the corn) and cleaned out the area of snags in preparation for the large seine.

It didn't take long for the hogs to come to the trough after the area was baited daily. Then some local boy got the idea of trying to fish for them on the same area. Success was fantastic. Tales of carp 16 to 18 pounds and up busted up rods, bent backs and straightened out hooks.

Cost to the Gem City outfit was less than \$25 and it is the opinion of many folks at the project, other places in the state could use the same idea in harvesting larger carp.

Clubs or individuals interested can contact the Pennsylvania Fish Commission for information on preparation of feed, when to set it out plus the general know-how.

—Excerpts from story by S. CARLYLE SHELDON,
District Supervisor

From a series of old pictures in a sporting magazine we learn of a curious fishing method practiced years ago in parts of England. Anglers hung an opened umbrella from the end of their fishing poles. The reason for this practice is not clear unless it was thought that the shadow cast by the opened umbrella attracted fish and so increased the chances of getting a bite.



LUNKER LAKE TROUT from Crystal Lake was dispossessed, fins, fuss and all by George Nolc of Clifford, Pa. It weighed 25 pounds, 37½ inches long. This big gent was nailed on a spoon fished very deep and taken not too far from shore in the vicinity of Crystal Lake Hotel. Man on the right in photo is Henry Poterjoy of Forest City, George Nolc, the catcher in the lake on right while a buddy, Michael Kutch holds the old klunkhead.



BACK FROM THE BIG DRINK, is this barnacle encrusted rod and reel from the Gulf of Mexico. George Taggart of Fort Worth, Texas lost the rig off Shamrock Cove near Corpus Christi two years ago. Said he . . . "The reel still worked!" He got a new reel and repairs to the old one amounted to \$5.50 including a new spool \$4 to put the dunker back in shape.

SOME LINES ABOUT LINES . . .

Here's a rather amazing economic fact: *Fishing lines in general cost less today than they did 20 years ago!* Why, you might well ask, with the cost of everything else climbing steadily since 1940, should fishing lines be so relatively inexpensive today? The answer lies in technological advances (greater volume at less cost) as well as the advent of less expensive synthetics like nylon, dacron and monofilaments to replace linen, silk, etc. These things have served to offset the steady increase in manufacturing costs (labor, packaging, distribution) though industry leaders estimate that these factors have now balanced each other so perfectly that there is no place for prices to go but up. When you consider that the price of a good fishing line is such a relatively small part of the total cost of an angler's outfit, it's rather amazing that any of us would settle for less than the very best available to do the important job assigned to it. Yes, fishing lines constitute one of the real bargains of our era so it behooves all of us to run, not walk, to our nearest supplier and come home loaded.

Age has nothing to do with learning new ways to be stupid.

It is observed in Biblical times most writing was done on clay tablets. Many a modern author still uses dirt.

Happiness is like potato salad . . . share it, and you have a picnic.

THE GREATEST THINGS

The best day? Today.
The greatest sin? Fear.
The best gift? Forgiveness.
The meanest feeling? Jealousy.
The greatest need? Common sense.
The most expensive indulgence? Hate.
The greatest troublemaker? Talking too much.
The greatest deceiver? One who deceives himself.
The cheapest and easiest thing to do? Find fault.
The worst bankrupt? The soul that has lost enthusiasm.
The best teacher? One who always makes you want to learn.
The best part of anyone's religion? Gentleness and cheerfulness.
The smartest man? One who always does what he thinks is right.

For Free . . .

New 48-page catalog, facts about insulations. Before you buy a sleeping bag or outdoor clothing write Eddie Bauer Products, Dept IF, 160 Jackson Street, Seattle 4, Washington.

Coleman Company, Inc., Dept IF, Wichita 1, Kansas, offers a free 39-page booklet giving ideas and suggestions for the family on an outdoor camping trip. Good stuff for novice and veteran campers.

Cloud clues to the weather is important for both farmers and fishermen. Paging thru a 15-page booklet offered by the New Holland Machine Company, Dept IF, New Holland, Pa., you can learn the different kinds of clouds that follow each other in a weather pattern. Good photographs, worth while for anyone outdoors-minded.

New catalogue of fishing tips and drawings of 35 game fish is available for the asking to anglers from Wright & McGill Company, Dept IF, 1400 Yosemite Street, Denver 8, Colorado.

Some Pennsylvania angler is a joker, according to New Jersey authorities. It seems this guy had been catching tagged trout in New Jersey, removed the tags, placed them around the legs of pigeons. First inkling of it came when a Pennsylvania woman called the New Jersey Fish and Game Division reporting she had captured a pigeon with a tag indicating the Fisheries laboratory should be notified. After the caller convinced them of her sanity, the tag was traced to a nine-inch rainbow trout. Came another call from a pigeon fancier; the tag this time was from a 10-inch rainbow. Biologists report they have been unable to find any correlation between increased tag returns from pigeons and the present trout-stocking ratio.

Some free advice to white folk on conservation was offered recently by Lightfoot Talking Eagle, a full-blooded Susquehannock Indian Chief, through the medium of John Fignar's Hunting and Fishing column in the **TAMAQUA (Pa.) COURIER**. In a recent address before the Sportsman's Night meeting at Schuylkill Haven during National Wildlife Week, the chief urged the construction of beaver-like dams in small streams at the headwaters of larger streams and at springs to conserve and protect our rapidly dwindling fresh water supply.

He indicated that the greatest problem confronting the United States today was not Russia or some other presently unknown potential enemy and nuclear weapons but "the rapidly dwindling fresh water supply." He said, "This can become a fiery sword that will drive us from our Garden of Eden we call America."

He quoted an ancient Indian proverb: "Destroy the forest and the waters get sick and die, and when the waters die all life dies, including man."

Hooked . . .

Darwin Hoop hooked and landed a 26½-inch brown from fly fishing only waters on a Quill Gordon, 4x tippet. Trout weighed 7 pounds, girth 15 inches. Darwin saw this fish, dapped the fly in front of the big fish which rose, gulped the feathered pest. Realizing he couldn't land this lunker in such a small hole, he lowered his net behind the fish which conveniently backed into the net. It was a beautiful fish even though it was impossible to play.

Albert L. Graham of Woodland, Pa., fishing the Black Mos-hannon Lake for pickerel smacked into something heavy using a small French spinner his son had sent him from Ger-many. The thing at the end of the line was a 36½-inch muskie, dressed out 12 lbs., 2 ounces. This lake was stocked with muskie fingerlings in December, 1956. Looks like the guys in that area better get ready with the big stuff.

Gene Clark, Ulysses, Pa., jerked in a brownie 26½ inches long weighing 6½ pounds from Genesee Fork of Pine Creek, another 21 inch, 4 pound job from Pine Creek, both wearing Fish Com-mission tags.

Herman Wiedenheft had a one-week catch of muskies from Edinboro Lake amounting to . . . a 36-inch, 12 lb., fish, one 18¼ lb.; a 47-inch, 25-lb., plus other lunkers lost.

Alvin Shafer of Edinboro, took a 36-inch, 12½-lb. musky and lost another from Edinboro Lake.

According to Warden Clifton Iman, he checked at Lake Oneida in Butler County, some nice fish on June 18 last, includ-ing a 25-inch, a 24-inch and 2 21-inch largemouths. Onward to Oneida!

TIRED LINE

Monofilament lines should be checked occasionally to be sure they retain a measure of elasticity. A mono line that has been overstretched or twisted too much will fatigue and lose much of its strength.

Most magazine editors are affable people who like to accom-modate subscribers. One editor, however, felt the following let-ter was asking too much:

"Dear Sir: Last year you printed an article, at least I think it was in your magazine, that interested me very much, but I have forgotten what it was. I lost my notes on the subject and can't find the magazine. Will you send me another copy of same, if it was your magazine?"

Emerson said—"Every great and commanding movement in the annals of the world is the triumph of enthusiasm. Nothing great was ever achieved without it."



"It isn't much of a houseboat Jake, really only an old tub!"

POISON IN THE ROUGH

Berries, berries, berries,
Berries red have no dread
Berries blue never so true,
Berries white poison in sight

CAUTION to Angler subscribers and readers: DO NOT mail money to the Pennsylvania Fish Commission for fishing licenses. See your local licensing agent or send application and money to Pennsylvania Department of Revenue, Harrisburg, Pennsyl-vania.

OLD FISHING LICENSE BUTTONS WANTED—we need the following years issue—1927, 1932, 1939, 1940 and 1945. If Angler readers have any of these buttons, write the Editor.

House Rules

It is proverbially the youngest baby in the family that raises the most hob—and man is nature's youngest. . . . The Old Lady was already well set in her ways when he appeared. Repeatedly he has wrecked his home, repeatedly he has been spanked, but stubbornly he persists in having his own way which he calls "The Conquest of Nature." It is my suspicion that it is time for him to learn the House Rules . . . the question, of course, is "What can be done." Personally I think much can be done; but the problem is so big, it must be taken in small portions at a time, just as we do with any big and complex problem. These portions are the local communities in which each of us live, where we have a chance to see at first hand what is hap-pening, and a chance as free men and women to do something about it. This is not only good technical conservation, but as Lincoln suggested, a duty dodged is a privilege lost.

—Paul B. Sears

WE WERE seriously hampered in our efforts for extended fish propagation, through a decreased appropriation by the Legis-lature at its last session. Previously it was the custom to set aside \$35,000 for two years. With this sum, we could operate all hatch-ing stations to full capacity, or as far as fish eggs were obtain-able, defray all expenses of the Commission for fish cultural work and have \$10,000 for distribution of warm water fishes.

—From report of Commission to Governor Wm. A. Stone, 1901

PRAY DON'T FIND FAULT

Pray don't find fault with the man who limps;
Or stumbles along the road.
Unless you have worn the shoes he wears,
Or struggled beneath his load.
There may be tacks in his shoes that hurt
Though hidden away from view,
Or the burden he wears placed on your back
Might cause you to stumble too.
Don't sneer at the man who's down today;
Unless you have felt the blow
That caused his fall or felt his shame
That only the fallen know.
You may be strong but still the blows
That were his, if dealt to you
In the self same way at the self same time;
Might cause you to stagger too.
Don't be too harsh with the man who sins
Or pelt him with words or stones,
Unless you are sure, yes, doubly sure
That you have no sins of your own.
For you know perhaps if the tempter's voice
Should whisper as soft to you:
As it did to him when he went astray,
It would cause you to falter too.

August Tip

Corroded metal lures and spinners will take on a new shine if you soak them in the water from boiled potatoes. Try it!

FISH COMMISSION ELECTS OFFICERS, NAMES NEW ADMINISTRATIVE SECRETARY . . .

The Pennsylvania Fish Commission at its recent annual meeting elected Wallace C. Dean, Meadville, Pa., as President of the Commission and Gerald J. Adams of Hawley as vice president. Mr. Dean succeeds Albert R. Hinkle, Jr. of Clearfield and Mr. Adams replaces Mr. Dean in the vice president's office. The Commission also named Mr. Warren W. Singer, Springville, Pa., to the post of administrative secretary. This post is presently held by H. R. Stackhouse whose retirement is set for the end of the year. Mr. Singer is a vice president of the Pennsylvania Federation of Sportsman's Clubs of Pennsylvania.



ELECTED . . . (l-r) Wallace C. Dean as president of Fish Commission, Albert M. Day, as new executive director welcomed by Albert R. Hinkle, Jr., retiring president.

HOWDY, THE GOOD OUTDOOR-MANNERS RACCOON SAYS:

"In conservation as in anything else you can get almost everything accomplished if you don't care who gets the credit."



INVISIBLE

It is rare for a glass rod to break under most fishing conditions. Be careful not to hit the rod against anything that might create an invisible fracture. This fracture plus the strain of a large fish snaps many a rod.

The worst thing about history is that every time it repeats itself the price goes up.

Vacation is a period when you exchange good dollars for bad quarters.

A bird in hand these days costs about twenty bucks.

Then there was this fellow who sent his car to the auto laundry and it came back with the buttons missing.

Any coward can fight a battle when he's sure of winning; but give me the man with the courage to fight when he's sure of losing.

Living in the past has one thing in its favor. It's cheaper.

Fishing is what men do to relax when they are too tired to mow the lawn.

The man who sows more than he can reap is very apt to loose his subsidy.

Anytime a guy feels real neglected he should think of Whistler's father.

Conservation means action . . . it is not a stagnant pool . . . it is a running stream.

ANGLER QUIZ

—By Carsten Ahrens



MUSSEL



SNAIL



LEECH

- A. The Hydra
- B. Freshwater Jellyfish
- C. Planaria Flatworm
- D. Horsehair Snake
- E. Nematodes
- F. Angletworms
- G. Leeches
- H. The Clam
- I. The Slug
- J. The Snail

The Lowly Invertebrates

- 1. Lives in a one-shell shelter; puts down a slime path wherever it travels.
- 2. They have a suction disk at both ends of the body; semi-parasites on turtles, fish, occasionally man.
- 3. Often parasitic in the flesh of fish; see that your fillet or chowder is well fried or boiled!
- 4. Is really a snail that has adapted itself to a shell-less existence.
- 5. It will destroy very young fish if it gets into the troughs in a fish hatchery.
- 6. Once thought to be only marine; it has stinging tentacles.
- 7. It spends a part of its life cycle as a parasite in a grasshopper or cricket; it was never an appendage of a mammal!
- 8. They may be male at some times of the year and females at other seasons, but they have always been a fisherman's tried and tested friend.
- 9. It has a soft body and two shells, hinged for closing.
- 10. A free-living member of a parasitic group; it appears to have eyes and ears.

ANSWERS

J—1, G—2, E—3, I—4, A—5, B—6, D—7, F—8, H—9, C—10.

the waterfall . . .



There's music in a waterfall that's different from a mill. You can hear a mill grind lazily in a rumbling, grumbling rhythm on a mid-summer day. But a waterfall trickles slowly in your sharpened hearing ear like a shrew you've wed quite hastily to repent a later year when the falls roar and spit like a cat just out a tree.



A waterfall can intrigue you so you want to rush upstream so swiftly you miss the beauty of the water down below. The yellow sandy bottom twinkles when it can thru the forelocks of the hemlocks greenery. Anxious mortal, to meet a destiny as quickly as most fools, passes up the good fish in many of the pools.



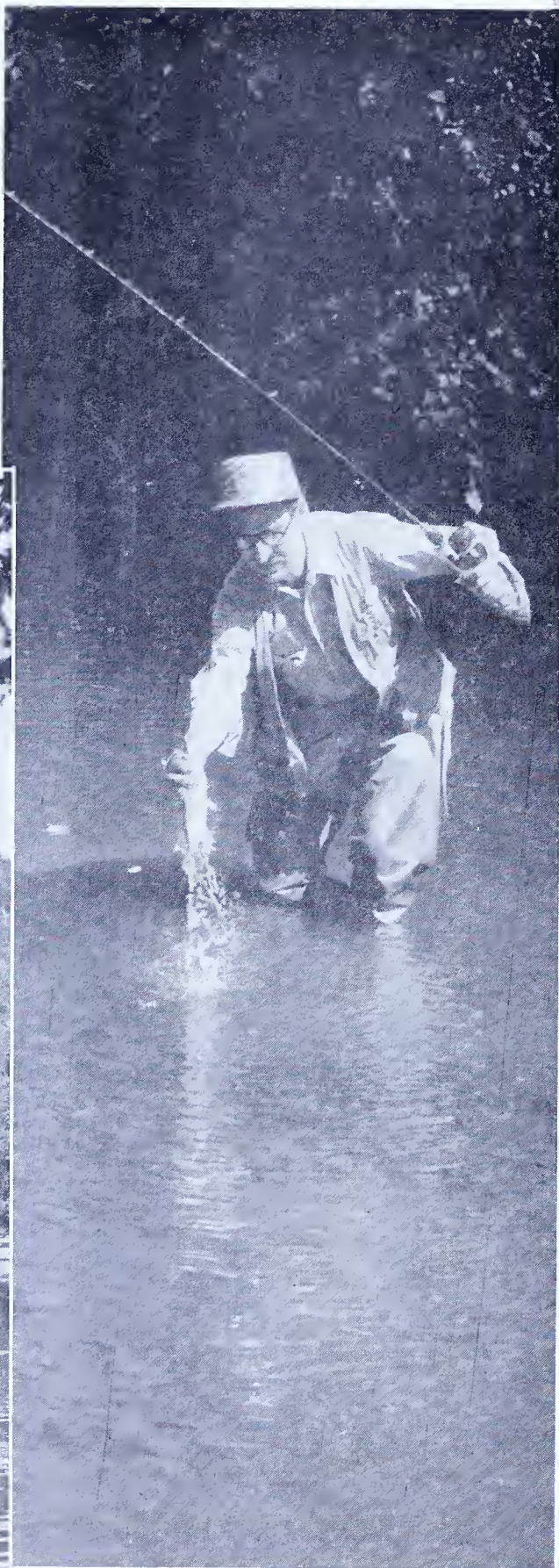
The waterfall calls him like a Lorelei to his goal as he blindly stumbles on. Louder and louder calls the falls as he speeds groping thru the thickets that sting him like a lash burning things inside him leaving scars that do not show.



At last with breathless breathing he bursts into the clear to drink up all the beauty he knew must all be here. Hardly can he wait to cast a fly at her feet finds the goddess rudely boisterous as well as indiscreet. No brilliant hook-jawed gargoyle rises from the depths in the roiling, broiling water beneath the spray. Only a roaring, jeering mistress who sneers and runs away.

—G.W.F.





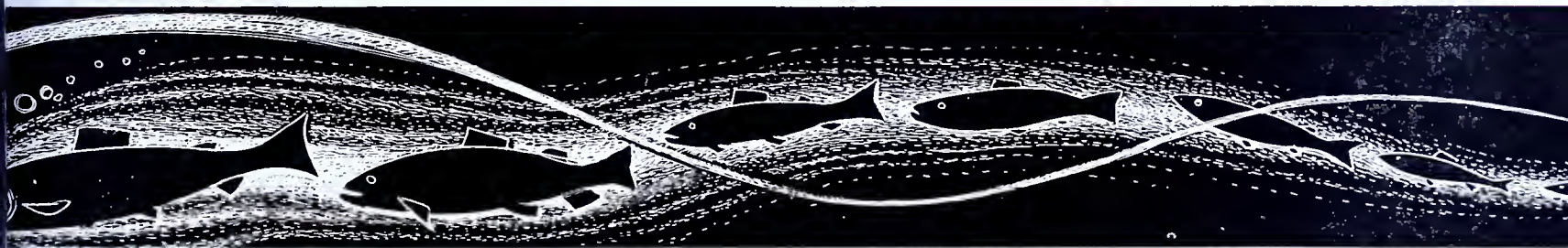
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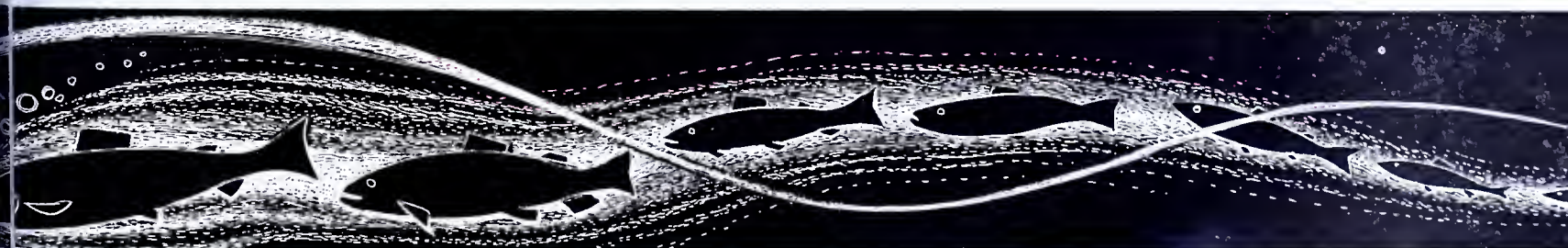
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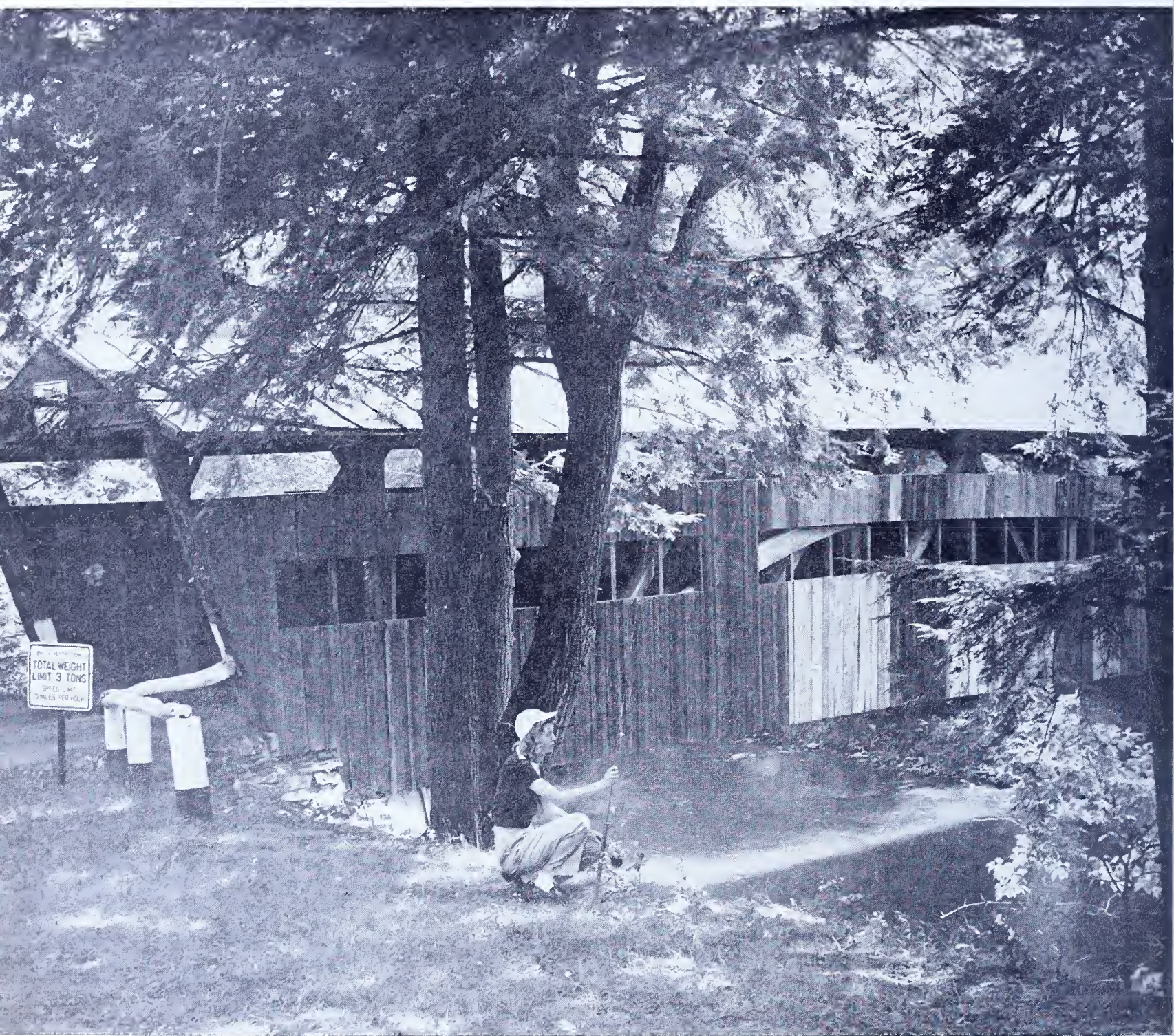
**You'll Come . . . to Lake Somerset!
How Can I Start My Son Fishing?**



**Dream Stream or Nightmare?
What Did Dela-Ware?**



**Striking — Hooking — Holding
A Way With Anchors**



Lament to a Covered Bridge —

. . . . Men will start taking me away tomorrow as soon as the sun is up. My new neighbor of shining steel and concrete piers will greet friends I used to know . . . doctor, lawyer, chief, farmer, milkmaid, angler, schoolboy, drummer and yes, . . . all those lovers of bygone twilights. From the tempests of rain, snow, wind and sleet I have sheltered many a traveler. The cool shade of my roof tempered the blistering sun into an oasis for the weary. My sturdy floor has the memories of a thousand feet . . . some bare, some shod. My hundred years are showing in groans, creaks and cracks. I am passé. Wistful, yet unafraid of my fate on the morrow. No regrets nor longing to linger. I was content never to be just aside the road but a part of it, breasting the stream. Grieve not for me, old friend, that I must become part of the ago. Sorrow instead, for those who can never full value the future if they know not the best of the past.—G. F.

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Pennsylvania Angler

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David L. Lawrence, Governor



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GEORGE W. FORREST, Editor

JOHNNY NICKLAS, Photographer

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YOU'ALL COME . . . to

LAKE SOMERSET!



—where there's fishin' and fun for the entire family only one mile off the Somerset, Pennsylvania Turnpike interchange.

**By Dan Heyl, Fishery Manager
Pennsylvania Fish Commission**

Photographs by Johnny Nicklas

● It isn't possible for me to huckster the fishing and the beauty of Lake Somerset much like Madison Avenue might do it. I simply mean to say . . . "the latchstring is always out for anglers—all and their families at the lake cause the fishin's been fine!"

This 253-acre lake is just one mile off the Somerset exchange of the Pennsylvania Turnpike, north of the town of Somerset, a most pleasing tourist stop on the Pennsylvania Trail, on Route 219. Easily reached and within several miles of the lake are camping facilities via tenting and trailer camps at Laurel Hill and Kooser State Parks. Numerous motel and hotel facilities are available in and near Somerset. Fine food is available for any appetite, any preference. Rates are judged reasonable.

Boats can be rented at the lake concession or private boats may be used but no motors are permitted. There is ample parking space for cars.

But let me describe the lake itself. Somerset Lake is owned by the Pennsylvania Fish Commission and was constructed in 1956 by this agency with federal funds and with substantial financial assistance from the local people. It is a shallow impoundment with a maximum depth of 18 feet but nearly 75 per cent of the water is less than 10 feet deep.

Treatment of the lake site with chemicals was undertaken during the summer of 1956. The then marshy area was treated to rid the future dam site of unwanted fishes. The area was first filled during the fall and winter of 1956 and early months of 1957. Initial stocking was made at this time.

Fishing started in the lake in the spring of 1957 although obviously few fish of desirable size could be

taken until the initial fish stocked could grow and multiply. But fishing soon improved, abundance and size-wise. By the summer of 1958 good catches of bluegill and largemouth bass were reported although no official census records were kept until 1959.

A large infestation of waterweed covered much of the lake in the summer of 1958 hindering fishing and boating. In early 1959, a partial chemical treatment was applied including the western shore of the lake. This side of the lake was the most heavily fished and included the boat launching area. The treatment was successful, virtually eliminating the weed problem from much of the lake.

When the 1959 creel census was made it had to determine the total use and total catch of the angler during the summer months of that year. Specific objectives were: (1) Fishing pressure (number of fishermen, hours fished; (2) Catch, species, composition, size, number and pounds caught, and, (3) General information, age groups of fishermen, sex, lures used.

Four species of fish have been planted in Lake Somerset: northern pike, walleye, largemouth bass and the bluegill sunfish. Only the walleye and northern pike have been stocked since 1957. Establishment and reproduction of the bluegill and largemouth bass was evident the first summer. No additional stocking of these species appeared necessary. The walleye and northern pike, on the other hand, will be stocked annually until it is determined if natural reproduction of these species has taken place or as long as it is felt that continued stocking of these predators is necessary or helpful in maintaining a well-balanced fish population.

Ideally, Lake Somerset would contain only those species stocked but it is known from net checks, creel census figures plus other observations, additional fish species are present, namely: white sucker, creek chub, bullhead, eastern banded killifish, green sunfish, pumpkinseed and probably the yellow perch. These strangers probably came from sources upstream or from angler's minnow pails.

Though the word "census" often sets up an annoying idea of somebody asking a bunch of "dern-fool" questions, forgive me if I briefly outline how it works for those seeking knowledge. The Somerset census was in part secured by random sample. Two week days and one weekend day were picked at random for each week of the period of May 30 through August 31, a total of 40 census days. The hours were fixed to run in two periods each census day: 7 a.m. to 11 a.m. and 5 p.m. to 9 p.m. One creel census agent, a biologically trained summer helper, secured the field data contacting as many anglers as possible during the census period with information regarding each fishermen recorded on a separate creel census card.

A count was obtained of all anglers using the lake during the census periods. Two checks each during the morning and evening periods were made and highest counts of each period added for daily use total. Separate tabulation was kept for shore fishermen, fishermen using private boats and those using rented boats (from concession, painted blue). Further, information on boat rentals, was compiled for the census period. These data were incorporated with fishermen-boat count taken by the census agent.

Data collected revealed 25,802 anglers used the lake during May 30 to August 31, 1959 with an average daily use of 225 fishermen per weekday, but which increased to 333 fishermen per day for weekends. Number of hours fished on the average for week days was 3.4 hours, on weekends, 4.3 hours. The census further revealed more fishermen using the lake during the evening than morning. Seventy-four per cent of fishermen checked fished in the evening hours, with shore fishermen outnumbering the boating boys by 6 per cent. Private boats outnumbered rented boats 2 to 1 although rented boat usage increased weekends.

BOAT RENTALS awaiting customers. Anglers are allowed to launch their own craft at the lake.



Anglers caught 57,002 or a total of 14,358 pounds of fish with bluegill, pumpkinseed and largemouth bass making up most of the catch. The larger bass measured up to 19 inches, but the bluegill catch was the most impressive. Eighty-one per cent of those measured were better than six inches with the largest 10 inches and larger. Northern pike, walleyes, and bullheads were also reported but were not among the leaders in the catch. Northern pike and walleye fishing should improve as these species mature. Reports of northern pike up to 29 inches were received in 1960.

Of the anglers fishing the lake, 12 per cent were 16 years of age or under; 27 per cent 16 to 35; 52 per cent 35 to 65 and 9 per cent over 65 years of age.

Eight per cent of the fishermen were females. Most fishermen used spinning equipment and worms for bait.

Now . . . maybe you've skipped all the figures and much of the story but take a hop, skip and a jump, even a whoop and a holler, but come! . . . just one mile off the Turnpike at Somerset to Lake Somerset where fishin' hospitality is always open to all in a most relaxin' way!



DISTRICT OFFICE, Southwest Region, Pennsylvania Fish Commission is manned by Warden Supervisor Minter C. Jones. Visitors, for the first trip to the lake, can make inquiries here.

PAN FISHERMEN get plenty of action at Lake Somerset . . . (l-r) Michael Schwerke, Pat Noll and Billy Geyer all of Johnstown. Pittsburgh and vicinity anglers have short drive to this good fishing spot just off the Pennsylvania Turnpike.



PANEL—*how can I start*

MY SON FISHING?

... it's a question fathers ask most frequently. The Pennsylvania Angler asked some fishing Dads how they would tackle it and here's some answers from top writers . . .

Readers who wish to direct questions to the panel writers can do so by addressing the writer or writers in care of the Editor.



ROGER M. LATHAM, Outdoor Editor, Pittsburgh Press

● If you have a son, you automatically have an obligation. If you have no son, or your boy is grown, you still have a moral responsibility.

Boys, anywhere and everywhere, need someone to take them fishing. They need someone to introduce them to the pleasures and values of this wonderful outdoor sport.

Somewhere in any fisherman's neighborhood is a lonesome little lad who has never had a chance to know the thrill of a "bite" or to catch a fish—any kind of a fish. His parents may not be interested in the out of doors; maybe he has no parents, or no dad. But you can be sure that he has the urge to go fishing. Every boy yearns for adventure and fishing to him is an open door to unlimited excitement.

Every father should want his boy (or his girl) to become acquainted with the pleasures of fishing because boys who fish are seldom bad boys. A boy with a fishing pole in his hand never has time to be a delinquent. A noted judge in a Washington state juvenile court once said that no boy who loved to hunt or fish had ever appeared for trial in his court and rarely has he found any kind of a bond between a delinquent boy and his father. But to keep the lad from ever knowing the gang at the street corner, the father should get started early. When the mention of a fishing trip makes him starry-eyed, there's little need to worry about his getting into trouble with the law.

Unfortunately some dads are miserable failures as teachers. They forget their child is entering an entirely new experience in unfamiliar surroundings. For

the youngster to get started right and to want to go again, the first few fishing trips are going to have to be on his level. Too often, dads refuse to lower themselves to this level and son soon decides he'd rather stay home and play with the kids next door.

The smartest thing a man can do on the very first trip is to leave his own tackle at home. It's awfully hard to fish and still give him the close attention he will need. Some fathers even go so far as to use the "now watch Daddy" technique and don't even let the boy fish at all. This is the worst possible thing to do.

The kind of fish is very important, too. Go for something like bluegills, crappies, catfish, sunfish or other easily caught fish. Don't try to make a trout fisherman out of him the first time out. And don't worry about size; even chubs or shiners will look two feet long to him. The main thing is to have action and to teach him how to recognize a bite, how to set the hook and how to pull a fish in.

His tackle is important, too. Too many fathers hand them a short, stiff casting rod, a cheap casting reel, or spool of line heavy enough to land a marlin and some hooks ten times too big. Even the most expert expert couldn't catch fish on such an outfit or even get any line out for that matter. If you want to knock all of the enthusiasm out of a boy, just start him with an outfit like that.

A light cane pole, a piece of monofilament, a bobber and a size 8 or 10 hook would be much better. But as he progresses, or if he is past 9 or 10 when he starts, get him a good spinning or spin-casting out-

fit. And when you buy it for him, stretch your pocket-book a little and get him something half decent. Get him an outfit you would be willing to use yourself. Or if you're a father without experience, go ask some good fisherman or fishing editor what he would recommend.

Don't make him fish too long at any one time. He'll want to chase frogs, build sand castles and catch bugs, but let him. When the fish begin to bite he'll be back in a hurry. When he catches a fish praise him as if it were a whale and let him keep it (if it's legal, of course). Take it home and fry it for him if it does little more than smell up the pan. Later you can explain why good fishermen return most of their catch to the water to be caught again on another trip.

And finally, don't let your boy get hungry, thirsty, mosquito bitten, cold, wet or sunburned. Plan the whole trip so he'll have fun and want to go back again. Soon, he'll overlook the minor discomforts, but not at first.

Remember, the way to get a boy started right is not

behind a fish hatchery truck along a beer-can bordered stream. Take him to a quiet spot where perhaps you and he can be pretty much alone. Once there, be very careful about your own fishing ethics. One illegal or unsportsmanlike act by dad can often spoil everything. His outdoor manners and philosophy are going to be moulded by his environment and for now you are most of his environment.

"You take a piece of living clay
And gently form it day by day;
Moulding with your power and art
A young boy's soft and yielding heart."

Why not get an eager kid and let him take you fishing? The boy needs you and you may need the boy. Their vitality, their honesty, their bright-eyed anticipation and their loyalty to everything decent and good are contagious. A boy can show you how to be young again.

And remember, a man is never taller than when he stoops low to help a youngster.

BILL WALSH, President, Pennsylvania Outdoor Writers Association

● The non-fishing father is confronted with two things when a young son looks him squarely in the eye and says:

"Dad! I wanna go fishin'!"

First is the boy himself, gazing up at the dad he adores with eyes that will hardly be denied. Second, is how to say, "OK" with assurance you can teach the youngster to fish when you know little about the subject yourself. The following suggestions may help.

You, as father-tutor, will have to provide your pupil with four things—something to fish with (tackle), something to use for bait (lures), some place to fish in (water), and a reason for enjoying fishing (attitude), not necessarily listed in the order of importance.

TACKLE—It's important. Try catching a fish with your bare hands if you don't believe it. For the beginning fisherman it needn't be elaborate. The younger the fisherman, the simpler the tackle. Our son caught his first fish at the age of three. He used an old seven-foot flyrod from which we'd removed the reel—tying the line to the first line guide. A worm on a No. 6 hook lured the fish—a small Crappie.

A universal beginner's outfit for small boys is an inexpensive 5-foot casting rod, preferably of the synthetic materials to take the abuse a youngster might inadvertently give it. Attach an inexpensive level-wind reel on which you've wound 50 yards of 15-lb. test fishing line. Add a half dozen snelled (leader attached) hooks (No. 6 and 8), a few quarter ounce sinkers, a bobber, and you're in business.

LURES—Start him out with live bait. He'll have plenty of time to become fascinated with the assorted

sizes, colors, and shapes of artificial lures. Worms or small minnows are best to start with. We're assuming you can figure out a satisfactory way to tie the snelled hook and attach the sinker to the end of the line. Lower the hook and sinker to the bottom of the stream, pond, or lake in which you'll fish; reel in one turn, then attach the bobber so it will "ride" the minnow or worm that distance from the bottom. Then hand Junior the rod and wait.

WATER—Stream fishing, except in quiet pools and backwaters, generally takes some previous fishing experience to have any fun at it. Lakes and ponds where "straight down" or short-line bobber fishing can be used offer best places for a beginner to get his feet—or line—wet at the fishing game.

Unless he's a swimmer, avoid boats for the beginning period or else put a life jacket on the youngster before leaving shore. Give him instructions to stay with the boat should it overturn.

ATTITUDE—The most important part of fishing. Teach him patience. Tell him it's the fun of fishing and not what he catches that is most important today. Be unhurried and calm at all times. He'll mimic your attitude. You can make a contented angler or a nail-biter out of him on the first trip.

If he's sixteen years of age or older he'll need a fishing license. And whether you fish or not, you'll need a license to make it legal when you put the worm on the hook, row the boat, or help Junior land the lunker bass he might tie into. Besides, if you take a youngster fishing once, chances are you'll do it twice. By that time you'll be in the market for a fishing outfit yourself. That's another story.



KEITH SCHUYLER, Author, Outdoor Writer

● If I were going to start a boy fishing, there are many things I would take into consideration.

If I wanted to make a fishing companion out of him, particularly if he was my son, I would be careful not to push him into it. He might resent it. But, I would make the opportunity available to him frequently.

Unless this boy had already demonstrated that he was good for the long haul, I would make his first trips short ones. The ability to concentrate on anything for very long is quite limited in very young boys.

Only young boys and older men take much time to dream when they are fishing. Those of us in-betweeners are too busy perfecting our ability to outthink the fish. Consequently, I would start this boy out bait fishing. Suckers, sunfish and catfish provide time for dreaming between bites. They also provide time to shinny up a tree, whittle a stick or tend a warming fire. Uncomplicated fishing equipment does not detract from other important things, important to a boy, and an old garden worm will do its darndest to make a fish bite when the boy is busy.

But, as the boy showed more interest in the fish than the fishing trip, I would advance him to the more skillful methods. And, rather than giving him some

of my cast-off junk, I would buy him at least a good-enough rod and reel. After he found that the fun of taking fish home to show off to his mother and his friends was becoming commonplace, I would help him enjoy the warm thrill of turning back all but the big fish he caught. We would discuss the necessity of this so that others might repeat the process.

I would gently explain to this boy that the tadpoles, frogs and crayfish that he collected to take home are best left at the stream. He and I might look for these things, kill a water snake together and search for a duck's nest. But, we would do these things in an effort to learn more about them and their place in the scheme of nature. We would talk about the reasons that these creatures should not be stolen to die in the garage or on the window sill.

The boy and I would learn together, because there would be many questions.

Some of the questions I would not be able to answer. We would find the answers together in the encyclopedia or one of my other books when we arrived home. This boy would not call every frog, just, "a frog," every small snake, "a garter snake," every turtle, "a snapper." He would know there are many species of frog, snake and turtle, and he would learn them by name.

This boy would know the fishing laws and why we have them. He would obey and respect them. Because, these laws were made, many of them long ago, so that he can enjoy fishing with me. And, some day he will enjoy starting his son.

This boy will not only be a fisherman, he will become a sportsman.

How do I know all this? Well, I was once a boy. And, three boys call me, "Dad."

CHAS. M. WETZEL, Veteran Sportsman, Author and Angler

● My son Bill and his family had returned home to the Penns Creek for a visit, and Bill's son Danny wanted to go fishing. The boy was only four years old and while he had never wet a line, he told everyone in his home town how he and his Pop regularly fished the Penns Creek for trout. The boy ate, slept and dreamed fishing; it was constantly in his thoughts and that's all he wanted to talk about.

"It's about time we take him," I said to Bill.

"That's right," he agreed with a grin, "he's ripe for it."

Now in taking a boy fishing there are a few fundamentals that must be observed or the expedition will prove a flop.

(1) The fishing locality must harbor fish.

(2) The equipment must be light, easily cast and one that no burden will be placed on a small boy.

(3) The lad must sense for himself when a fish is biting, so a cork or float is an absolute must.

(4) The bait or lure must be a worm, not just an ordinary worm, but one that wiggles and conjures up visions of fighting, slashing fish, ready and eager to kill and eat it.

(5) To insure comfort, a seat or stool must be provided for the fisherman.

(6) And last, but most important, fish must be caught!

So, knowing what was to be done, we made preparations for Danny to go fishing.

Our log cabin on Penns Creek fronts on the Spinning Wheel Pool, a dark, deep hole over whose foam flecked surface the water circles endlessly. It is used by the Camp Ioka Girl Scouts for swimming, and it also harbors lots of fish. Near the head of the pool,

close to our lawn, the water appears to flow upstream and moves so slowly as to be barely imperceptible. This was the locality selected for Danny's fishing, for I had often observed chubs and fall fish swimming nearby.

We looked over our collection of fly rods and the lightest one was a two ounce Winston. It was rather an expensive rod, however, we didn't see how the lad could possibly harm it; so that was the rod selected. We placed a cork midway up on the six foot leader and to the point, we attached a number six hook baited with a wriggling worm.

As we walked down to the waters edge, Danny picked up and carried along a short section of log to be used up-ended for a seat.

Bill baited up, threw out for Danny then handed him the rod. We all congregated about.

"You have a bite, Danny," shrieked my wife as the cork bobbed up and down on the surface of the water. Then it went completely under!

"Pull Danny," I shouted.

Danny pulled lustily and threw a three inch chub out over his head. He jumped up, threw the Winston roughly on the ground and pounced on the fish. He was so pleased he could hardly contain himself! This was his first fish, and everyone made a big ado out of the matter. Bill ran up to the cabin for a bucket to put the fish in; his Mother kissed him roundly and Danny posed while I took a colored photo of him and the fish. All in all, it was a great occasion and one which the boy will probably never forget.

"I'll clean him for your dinner, Danny," I offered.

"Perhaps I can catch some more," he answered hopefully, "I'd like to catch one for your dinner too Grandpop."

Danny wouldn't quit fishing. He caught fish after fish and he got a big kick out of watching them swim around in the bucket.

The only thing that marred his pleasure was the rough seat.

"Go and nail a board on it," ordered my wife.

So I nailed a board on it and Danny was again happy. Finally, he used up the last worm; then we quit and cleaned the fish at the waters edge. We had them that evening for supper and though they didn't compare in size with the trout his Dad caught on a fly later that day, yet they tasted much better. That week while he was home, Danny caught some twenty chubs and fall fish and he hated to leave when the time came.

As I am writing this now I am looking out over the Spinning Wheel Pool where the water still circles lazily. Now and then a trout splashes after some insect, but it is not that so much that rivets my attention as a huge stump near the waters edge.

On the top of this tall stump reposes Danny's fishing stool!

"Put it there so that you'll have it the next time you come in," I had suggested as they were ready to leave.

"Alright Grandpa," he answered, "but don't let anyone take it."

"I won't," I promised. "Good bye now."

R. N. (BOB) HAMILTON, Outdoor Writer, Fisherman

● One of the great if not the greatest, times of a boy's life is when he makes his first fishing trip with dad. And if dad isn't just as excited about it as junior, I'd say there was something decidedly wrong with him as a father. Whether or not dad will have a fishing pal depends on it.

Now let's settle the tackle problem first. Be sure it's suitable for a youngster. Don't equip him with some of your old discarded tackle and expect him to be happy with it. Probably the reel will only work occasionally for you. Tackle that might be all right for an adult will be much too heavy and tiresome for a little boy. And a tired little boy soon gets discouraged. So get him the best outfit you can afford, even if you have to forego some new piece of equipment for yourself. For an average boy's fishing, I suggest an ultra light spinning or spin-cast rod, 4½ feet long, weighing about 2 ounces, a 6 or 8 ounce reel, a 3 or 4 pound test line, all of a well-known brand, and some eight-ounce lures. Teach him the rudiments of casting sitting down as well as standing up. It may save his life someday. Anyone can stand up in a boat and cast, but is it safe? It's definitely not safe in a canoe.

When you take him fishing the first time, forget about finicky trout and choosy bass. The main idea is

for the boy to catch some fish. Go after the more cooperative yellow perch, rockbass, blue gills, bull heads or the saucy little sun fish. He'll catch fish and have quite a ball. You'll remember your boyhood days and just might get a kick out of it yourself. Don't scold or ridicule him for any mistakes he makes. If you have done your job as a teacher they probably won't be as bad as some you made when a beginner. Now is the time to give him first lesson on conservation by showing him how to hold and remove the hook from an unwanted fish. After a few trips for these diminutive warriors he'll be ready for bigger game such as bass.

I wouldn't think of taking a lad trout fishing until he's nine or ten years old. Trout fishing is really hard work and at times can be most discouraging, even to an adult. Take him to the streams you know and let him fish the best riffles, glides and pools, showing him where he can expect to find a fish. Don't cast or permit him to cast into a pool where someone is fishing. Don't fail to point out and show him any frog, snake, muskrat or any other form of wildlife you may see. It's all very interesting to a boy and will help him to realize there's more to fishing than the fish one catches. He'll be well on his way to becoming a welcome member of any fishing party.



Striking —

Hooking —

Holding . . .

By Charles K. Fox

Though this is an old Angler article originally written by Mr. Fox it is as timeless as its application.

● It has been more difficult for me to hook fish on a surface plug when the plug is within a distance of 35 feet than when the plug is riding on the water beyond that range. Just the opposite has been the case of underwater lures. In the latter a greater percentage of strikes have been properly answered when the lure was relatively close.

Surface plugs are not always taken with great gusto and commotion. Sometimes they are taken slowly and even deliberately. On occasion a bass will even jump out of water and take the lure on the way down. Frequently, we see or hear the commotion before it is possible to feel anything. If we expect to hook the fish we must allow sufficient time for the fish to get the lure in its mouth. A surface lure can be taken away from a fish, by the angler striking too soon. It is impossible to do this with an underwater lure unless you can actually see the fish pursuing it. The closer a surface plug is to the fisherman the more likely it is for him to take it away from the fish.

In the case of the underwater lure we generally feel the strike before we see the fish. When the strike is telegraphed to the angler through his equipment the fish already has the lure in its mouth. Naturally, under such a circumstance a fast strike is in order.

The conclusion is that it is important to strike rapidly when underwater lures are employed but strike slower when a fish takes a surface plug. Try to wait until the surface plug disappears. Exactly the same applies in fly fishing to wet and dry flies.

One bright moonlight night last summer two of us were fishing a particularly interesting stretch of water above Samples Bridge on the "Canadaguin" (Conodoguinet). Surface plugs were in order. It is easiest to fish quartering down stream but this is not the best method of attack. However, that is what I was doing at the time.

A bass, probably a very large one, rudely broke the stillness of the night with a vicious lunging strike at a baby popper which was only about twenty feet from the rod tip. Startled by the great commotion I immediately answered with my strike but the hooks did not sink home. The plug jumped away from its pursuer. The chances are that I took the plug away from the fish by striking too soon. This unnatural procedure must have made the fish suspicious for it would not "take" after that.

Apparently, a bass takes surface plugs in one of two ways, he either lunges at it making considerable commotion or he moves behind it and sucks it into his mouth. Often I have watched bass in a spring at home take floating insects thrown to them such as: grasshoppers, locusts, and Jap beetles. They move to within an inch or two of their victim and then suck it in with a snapping noise. When bass take food this way they do not move into the food but they suck the food into their mouths from a short distance.

Often in our fishing we hear something snap at a surface plug. This is the same noise the bass made at the spring when taking large insects. When this occurs, we believe they are actually trying to inhale the surface plug but because of the taut line and the weight of the lure they do not get it. When they

can't move the bait to their mouths in this method they seem to become suspicious and often will not try again.

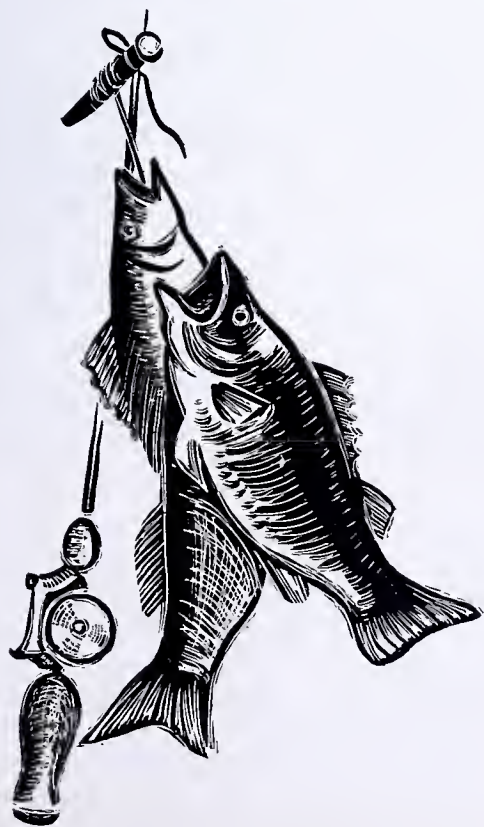
In stream fishing we prefer to cast surface lures quartering up stream and fish them very slowly with the current. In this position a gently striking bass can more readily move such a lure, and, as a result, we believe more fish are hooked.

The importance of the angler's answering strike can not be over emphasized. If the hooks are to stick they must be driven in over the barbs. If this is not accomplished the fish unloads the plug, usually on the first jump. Different fishermen go about this in different ways.

Some hold the rod to the side during the retrieve and strike the fish by sweeping the rod backward. The great objections to this is that they are in an awkward position immediately following their strike. If the fish comes toward them it is free to do as it pleases on a slack line. Very often this results in the fish disengaging the lure, particularly on a jump.

Other fishermen retrieve the lure with the rod pointing at the lure. If the cast has been a long one some even hold the butt away from their stomach with their elbows free and ready. The strike is upwards and it is snappy but not powerful. This method we believe to be best.

We read a lot about the great value of accuracy casting as compared to distance. We'll agree 100% with the value of accuracy but we firmly believe in distance and lots of it in some waters and under certain conditions. The man who fishes the big ledge streams develops his distance to the maximum; so does the fellow who fishes a pond which lacks interesting shoreline targets. It requires a snappier strike by the angler when a fish "takes" at the end of a long cast than when the action occurs close to the fisherman.



Always strike twice, is our iron clad plugging rule. Try to set the hooks the first time, but just as soon as things are under control jab them in again. Some parts of the mouth of any game fish are tough and hard and the angler has no way of knowing what the hook should penetrate. Usually the second answering strike of the angler can be made before the bass takes to the air. If a hook has not penetrated to the extent that the barb is covered, the fish and the lure invariably part company on that thrashing jump.

It is dangerous from the angler's standpoint to indulge in rough tactics while the fish is in the air. The specific gravity of a fish is about the same as that of water, therefore, when it is submerged it weighs practically nothing as far as the angler is concerned, but when it jumps and is out of its element look out, for then its weight as well as its strength enters into the picture.

Once the fish is believed to be hooked do not strain the tackle unless the fish is headed for some obstruction. If you like to see them jump hold the rod tip high during the fight. If all you care about is the landing of the fish hold the rod tip low and to one side. The important point is to have the fish fight against the spring of the rod. In this position there will be no direct pull on the reel and the spring of the rod will absorb strain so that the tackle will be intact.

The thumb on the spool exerts the proper pressure so the reel will not backlash, yet the fish can take out line when runs are made. The best way to make a tackle smasher out of a fish is to point the rod right at the fish and start cranking the reel or freeze the spool. This along with improper striking are the main reasons why good fish get away. In the former case something usually breaks or rips; in the latter the points of the hooks lose their unstable hold.

It is important to keep the hooks well sharpened. A dull, rusty or bent hook point will not readily penetrate beyond the barb unless you are lucky enough to hit a soft spot.

Some pluggers lose most of the good fish they hook, whereas others land most of theirs. The answer for the most part is the respective method of striking and playing and not the wiles of Dame Fortune.



THE DELAWARE, a handsome, sparkling necklace set in the emerald of the Poconos near Ponds Eddy, New York. This scene, while not as popular with tourists as the Delaware Water Gap at Columbia, is characteristic of the river at many vistas. It was the river the Tri-State Survey team wanted to probe.

● And, that they did . . . during a several week Tri-State study of the Delaware River from Hancock, N. Y. to Lumberville near Frenchtown, N. J. There were 10 stations studied: (1) East Branch of the Delaware; (2) West Branch of Delaware near Hancock; (3) Long Eddy, N. Y.; (4) Milanville, Pa.; (5) Mongaup, N. Y.; (6) Minisink Island near Milford, Pa.; (7) Tex Island near Delaware Water Gap; (8) Belvidere, N. J.; (9) Riegelsville, N. J.; (10) Lumberville, Pa.

Ye Ed caught up with the team at Belvidere, N. J. around 10:30 a.m. They were having trouble with a balky pump that refused to spurt chemicals properly. During the delay I met some of the biologists from the three-state group headed by Otis Robbins, Jr., Fishery Biologist, U. S. Fish and Wildlife Service. Mr. Robbins invited me to ask any questions. He or his staff would try to answer them. He was on his haunches looking over the river as he issued the

invite. After a while declaring softly . . . "you know, George, we haven't any idea what's in the river out there but we aim to find out."

The Delaware is beautiful here at Belvidere with ledges and inviting big riffles to make any angler's eyes sparkle with anticipation. The river is dotted with small tear-drop-shaped islands hardly more than fifty feet long and 25 wide, varying considerably. The deep smooth glides must be waded with caution for depths change abruptly. The bottom varies from pebbly to jagged rocky ledges, the banks edged with sticky clay strata. It isn't a wildly turbulent river, rarely spills out all over everything and everybody like the Susquehanna. It appears most reasonable in deportment and attitude with enough variations of breadth and depth to please the most fussy angler, yet a river that must be respected. In short, the Delaware ranges from beautiful in its upper reaches to the proportions of a hag lower down yet on the whole she is a handsome dame.

I did a quick change act from street togs to shorts and wading shoes. Nets were scarce but I manned a flat job suitable for collecting bottom samples but useless in scooping up 10-lb. carp.

Long seines were placed in the downstream riffles to catch the fish as they dipped and dived on their way downstream. The 18-man team was soon busy collecting specimens after the chemicals were administered in the upstream riffles.

A crowd of curious tourists in the Poconos watched as the operation proceeded. A few declared it was a darn shame to kill so many fish while others looked on in ignorant silence without a program to tell one biologist from another or one fish from the other.

It was explained to them this operation was vitally necessary to analyze the content and condition of the river. That water gives up its secrets stubbornly and that man, any man, must work hard to find the answers to many problems so common to fishing waters of the three states and for that matter, anywhere in the world.

Some of the answers sought were the number of fish per acre living in this portion of the river, their approximate age, rate of growth, vitality, numbers in proportion to other fish, suitability of the water for certain fishes, forage and food fishes, minnows, stream-life and a host of other answers so vital to good stream management. Only the biologist, with his laboratory and many tools can look into the mysteries of the water world, evaluate the data and information collected though it may take many months to graph,

ELA . . WARE . . . ?

—well, . . . nobody knew . . . until a team of biologists from New York, New Jersey and Pennsylvania decided to look 'er over!

can grasp the picture overall. He can accomplish this only by the chemical process treatment some anglers abhor, though an industrial pollution, for example, may kill thousands of fish yet fail to lift even the eyebrows of some fishermen who might accept it as an everyday occurrence.

On the Delaware, it was theorized, the hurricane of 1955 caused such havoc and destruction to the Delaware watershed, as a result the river itself and all life therein was substantially destroyed. For four years it was uncommon to see an angler on its reaches but of late, reports coming in to the conservation agencies were often and accurate enough to justify a survey of the river.

So this was it . . . 18 men with boats, seines, collecting nets, pumps, scales, cans, bottles and the miscellaneous, gathering up the fish. The operation began at 11 a.m. and finished about 5 p.m. In that interim it was estimated more than 5,000 fish were captured including 600 pounds of suckers, 200 pounds of carp, 60 pounds of walleyes, 40 pounds of bass plus many other species such as shad, bullheads, sunfish, eels, minnows of many species. Ye Ed got a special commendation for scooping up a half-pound goldfish on one of the riffles, a fugitive from somebody's aquarium. With 4 acres treated, the total catch was estimated at between 200 and 300 pounds per acre.

While sorting fish netted, two divers went about the business of scanning the bottom of the area chemically treated. They reported many fish swimming about as though nothing had happened to their world long after the treatment was applied and which indicated many more fish in the water acreage aside from those actually netted. Had it been possible to completely treat the area the amounts of fish netted would have been more than fabulous for the small section worked.

While the fish were being processed I watched as the men measured, weighed, sorted, sampled, collected, set aside the game fish, many specimens for future study in the laboratory. Everything appeared to tell a story in contrast to the results of stations further upstream where, in the far reaches into colder waters of the Delaware, big trout came to net. Shad were taken from every station from Mongaup on down.



While the work was proceeding I suddenly asked if the men really enjoyed their work. Startled, almost to a man they declared they got a big charge out of this type of survey work. I should think the smell and feel of fish . . . fish . . . fish, day in, day out would curdle a biologist from looking at even the fins of a car. Not so, however, for didn't several of the boys invite Ye Ed on a fishing expedition that evening after work was done for the day?

This work never seems to have an end to it. Up to and after dusk had fallen in the Poconos, the boys were mending and drying their seines and nets, some filling in reports, compiling notes before sinking tiredly into a mattress only to be yanked out the sack at 6 a.m. next morning, trucks and gear boats packed ready for another day at another station.

Otis Robbins, Jr., leader of the expedition, the Tri-State Survey, stated that two important facts had already been discovered: (1) the Delaware had recovered from the hurricane of '55; and, (2) the rate of growth in fishes found in the Delaware was second only to the growth rate in Lake Norris, Tennessee, world-renowned for its phenomenal record.

Among the staff of the Tri-State group were: Otis Robbins, Jr., Joe Mihursky of Lehigh University, Richard Gross, Biologist, N. J., Eli Dietsch, biologist, N. Y., R. Bruce Pyle, Biologist, N. J., Dr. Francis Trembly, Biologist, Lehigh University, Robert Bielo, Fishery Manager, Pennsylvania Fish Commission, assisted by fishery managers Terry Rader and Curt Simes and their helpers Joe Carrol and Dave Daniels.

(Turn page for photo action story.)

HANCOCK

LONG EDDY

MILANVILLE

6

4

7

9

8



... here's the action picture story of the recently completed Tri-State-Federal Survey of the Delaware River.

1. PLAN OF ACTION ... with R. Bruce Pyle, asst. biologist, N. J., Eli Dietsch, biologist, N. Y., Otis Robbins, Jr., biologist U. S. Fish and Wildlife Service, Or. Frances Trembly, biologist, Lehigh University and Robert Bielo, Fishery Manager, Penna.

2. DIVERS checking out equipment, loading equipment at Belvidere station.

3. ON HAUNCHES, Otis Robbins, Jr., coordinator of the project, gives instructions for the day at Station No. 8.

4. SPECTATOR without a program is confused at what's happening, as chemical-laden boat moves to riffles. Netters are at end of pools and glides where they will net floating fish near Belvidere, N. J.

5. PUMPING CHEMICAL for study of the fish of

6. HEAD OF RIFFLES has two men tre rapid water, using Indian pumps, o the surface other into shallow depths gaup, N. Y. station.

7. NETTERS BUSY picking up fish as t downstream. This is tough work, ta muscle power and timing.

8. LARGE BASS is netted here by Dr Trembly of Lehigh U. about to be boats that gathered the fish.

9. UNLOADING FISH at sorting station.

10. ACTION SCENE at Minisink station sorting equipment.

11. SEPARATING the men from the ... separating the fish is big job cons sorting suckers, rough fish, bass, trout, shad. Here Joseph Mihursky



10



11



12



13



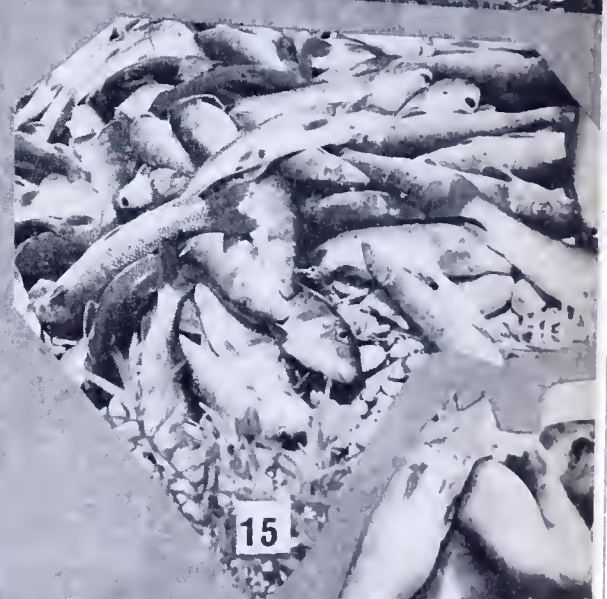
KARASAC

DELAWARE

BELVIDERE



14



15



16



17

photos and art by
Johnny Nicklas
Chief Photographer
Pennsylvania Fish Commission

ALLEYES held by George Snyder, only
sportsman not employed on the project,
worked with tri-state group as a diver,
noted time, money and diving equipment
by "gratis." Fish at right hand weighed
measured 28 1/2 inches, other was 6
1-ounces, measured 26 1/2 inches.

ARRING, WEIGHING is part of the job.
hursky and Dave Daniels of the Penna.
Commission at the Belvidere station.

SUP sorting shad fry and other species
nows, etc.

SUP of a pile of suckers.

ULT SHAD taken near Belvidere, N. J.

HO! With a 9-lb. walleye. Ye Ed couldn't

RIEGELSVII



FINISHED PRODUCT example of another sportsmen effort to clean up and restore a waterway to a thing of usefulness and beauty. This scene along the Lehigh Canal near Walnutport was made possible by the Lehigh River Restoration Committee. Previously it was a weed choked, junk filled ditch, the water of which was further fouled by septic tank overflows and industrial effluent.

DREAM STREAM . . . or

NIGHTMARE?

By Paul M. Felton

Can the old hag of a Wissahickon be made into a beautiful gracious lady? It'll take more than extensive plastic surgery but Mr. Felton knows it can be done!

● Looking for a nice little bass stream to fish? I know of a dandy. It's loaded with riffles and full of picturesque old mill dams. Easy to get at, it has 33 bridges in its 24 miles of length. Beautiful? The Split Rock Club Dream Mile on the Tobyhanna in the Poconos has nothing on this stream. There is scenery varied enough to please everyone. It runs the gamut from open farmland and woodlots in the upper valley to a deep, cool hemlock-lined gorge area at the mouth. As it is close to a metropolitan area, the city sportsman can easily leave work at 5 P.M. and wet his waders within a half hour. It is the perfect setup for an angler's dream stream.

The stream is the Wissahickon. The location is just outside of Philadelphia, a city where a few hundred thousand fishermen are yearning for the good old fishin' days when a fellow could catch his limit of



FOAM caused by detergents floating down Sandy Run, tributary of the Wissahickon.

bass on most of the small streams thereabouts. Even lunker trout were there for the taking.

But hold on! Don't bother fishing the Wissahickon, because the bass just aren't biting these days. As a matter of fact there are hardly any bass left in what was a perfect little stream. There are a lot of suckers, somewhat on the small side and, at select locations, goldfish up to twelve inches in length. Oh yes, the Fish Commission does stock the last dilute mile or so with trout in early Spring on a put-and-take basis, but the major part of the stream is generally devoid of game fish.

What has happened to all of this precious water? Why will it support only trash fish? Has it merely been fished out? No, the answer is pollution.

For many reasons, valid or not, whenever the human race reaches a population density of a few hundred per square mile, such area's water resources, along with soil, forests and wildlife, take a beating.

Flowing its last miles through world-famous Fairmount Park, the Wissahickon Creek is today an outstanding example of urban pollution. Where excellent fishing once was afforded in the deep pools of many mill dams along this historic waterway, one now will find only shallow, weed-choked ponds. Pools full of fish have been replaced by pools full of silt. This silt was washed downstream from the headwater farms, road construction, and the large acreage of "bulldozed subdivisions," the glaring trademarks of today's progress. Fish spawning grounds were destroyed as the stream bed silted. Heavy flood crests hammered down the larger mill dams and chewed away at streambanks, adding more silt to peak flows.

Raw domestic sewage together with commercial and industrial effluents have forced 99% of the surviving

game fish to head downstream in search of waters in which they could live. A very few worth mentioning, like the 20 inch Brown Trout mounted over Cisco's Bar in Flourtown, managed to stay cool and fat in the streams lower, spring-fed reaches. But they now are practically non-existent.

The final blow to discriminating fish life in the Wissahickon has been the wide acceptance and use of synthetic detergents by housewife and industry alike. As our best municipal sewage plants have little if any effect on it, this detergent is lending its picturesque white foam to the stream. Unfortunately, neither the fish nor the organisms on which they feed can live in it.

Simply stated: the game fish population decreased as the human population increased.

"Doesn't anybody care what happens to creeks such as the Wissahickon?" you may ask. Yes, a long line of fish wardens and their deputies have, for years, been plugging away to stop pollution. Fines have been levied on erring industries time after time, but most of the harmful effluent continues to foul our waters. The Sanitary Water Board, in carrying out the provisions of the Clean-Stream Act, has been fighting the battle of pollution shoulder to shoulder with the fish wardens, but judging from the condition of some of Pennsylvania's streams, this is not enough.

The residents of polluted areas must rise in a body and demand faster action in pollution abatement. They may even have to clean up the widespread pollution with their own bare hands if they hope to see clean streams within this lifetime.

One such group is the Wissahickon Valley Watershed Association. This brain-child of the Philadelphia Conservationists was organized by concerned residents along the Wissahickon Creek, for the express purpose of protecting the natural resources in the 54 square mile upper Wissahickon Valley. The original twelve members in 1955 have swelled to the present 400 enthusiastic members both in the watershed and far beyond the local area. Interested conservationists who are both curious to watch the progress of this venture

FISH WARDEN Walter Burkhardt picks up a sucker from net held by Thomas Dolon of Consulting Biologists while Deputy Warden Kenneth Longacre of Pulpville looks on. Fish Commission Biologist Robert Bielo (right) catches a little sun on a thinning top.



REGIONAL FISHERY MANAGER Robert Bielo (left) and **Walter Burkhardt**, district fish warden (middle) Pennsylvania Fish Commission, **Bob Thompson**, work unit conservationist for Soil Conservation Service, look over plans for the Conservation Demonstration.



and eager to support the work being done have "joined-up."

Primarily an independent fact-finding and educational group, the association has undertaken many projects to further wise resource use. Members are currently joining forces with the local Soil Conservation District and the Montgomery County Commissioners to push a flood control project under Public Law 566. The purpose is to harness growing run-off waters of the creek, and to preclude recurrence of the August 1955 flood which caused \$500,000 worth of property damage and one life. Nine flood retention structures proposed in this project would protect urban areas along the 23 mile watercourse between Lansdale and Philadelphia. Small permanent pools two to 16 acres in size, a by-product of the project, could provide a possible boost to fishing in the locality if pollution is controlled.

A conservation demonstration area is planned along the creek. The purpose of this area is to show the wise handling of natural resources. Forest trees, food

and cover plants for game birds and animals, and basket willow will be planted on eroding stream banks and nearby unused or "used up" slopes.

The main feature, of particular interest to fishermen of the area, is a series of practical stream improvement structures which will be installed in the creek to encourage fish life. Robert Bielo, regional biologist for the Pennsylvania Fish Commission has recommended the type structures to be installed. Walter Burkhardt, fish warden for Montgomery and Philadelphia Counties, will supervise their installation by groups of Boy Scouts.

Low dams of flatrocks will create pools, each a hiding place for fish. Log deflectors placed low in the stream bed will speed up the current to clean the bottom of silt, thus exposing gravel for spawning fish.

Twin deflectors will clean off midstream silt bars and direct the settlement of bars along banks downstream. They will also deepen the channel in spots, to provide low-water resting pools for fish life.

Basket willow plantings along the banks, stabilizing stream banks with their roots, will also shade the water. This tends to hold temperatures down during summer low flow periods.

The object of the demonstration area is to encourage the installation of similar conservation works all along the 23 mile stream by landowners, sporting groups and Boy Scouts.

Already, Scouts and Explorers have planted over 2,000 basket willows in the area, along with Wichuriana Rose placed at the tops of eroding banks. The willow plants were raised by garden club women, in keeping with the association's policy of getting everybody into the act.

In 1958, a Philadelphia concern, Consulting Biologists, was retained by the Association to carry out a



GARDEN CLUB members, Mrs. Frederick Peck and Mrs. Philip Dechert, prepare a batch of basket willow cuttings for rooting in the John Fleming greenhouse during February.

BOY SCOUTS from troop #461, Souderton, Pa., plant basket willows along eroding Wissahickon banks. Scoutmaster Harold Frederick leads off on the right.



ROCKY BRIDGES, of Consulting Biologists pours shocked but very much alive white suckers into a carrying can for the trip to Lehigh University. Service Forester Al Schutz assists.



5-year biological survey of stream life in the Wissahickon. Periodic samples also are being taken at five well spread stations along the stream. Data on pH and other elements in the streams water chemistry are collected and evaluated, along with samples of the micro-organisms in the stream bottom. This study will eventually provide the Association with the necessary data to attack pollution at the sources.

Recently, at the Association's request, the Pennsylvania Fish Commission made a fish shocking study at three points along the upper Wissahickon, to determine the species present in the stream. In addition to the ever present sucker, the species collected and identified cooperatively by the Fish Commission, Consulting Biologists and Lehigh University's Joseph Mihursky were: dace, darters, shiners, stone cats, goldfish, a few sunfish and three stunted largemouth bass.

The almost total absence of game fish and the overwhelming presence of trash fish confirmed the Association's survey and indicated a biological depression of approximately 50%. Put in other words, this means heavy pollution. The Fish Commission will not stock a stream with this degree of pollution, because the game fish would have very little chance for survival.

Only time will tell how far the Wissahickon can be pulled out of its present depressed condition. Certainly the Wissahickon Valley Watershed Association will do everything in its power to expedite the clean-up work.

The time may have arrived when indiscriminate pollution of urban streams will cease.

It is a human failing that makes us resist change, mostly because it takes a certain expenditure of energy and work. However, cleaning up the polluted waters of small streams such as the Wissahickon could mean the return of recreation and good fishing to hundreds of miles of urban waters.

The rejuvenation of the Wissahickon will be as important a spur to the small stream recovery program as the recent Schuylkill River clean-up was to larger waters.

As one wit recently put it, "The Wissahickon nightmare might just possibly turn into a sweet dream." We hope so!

Autumn . . .

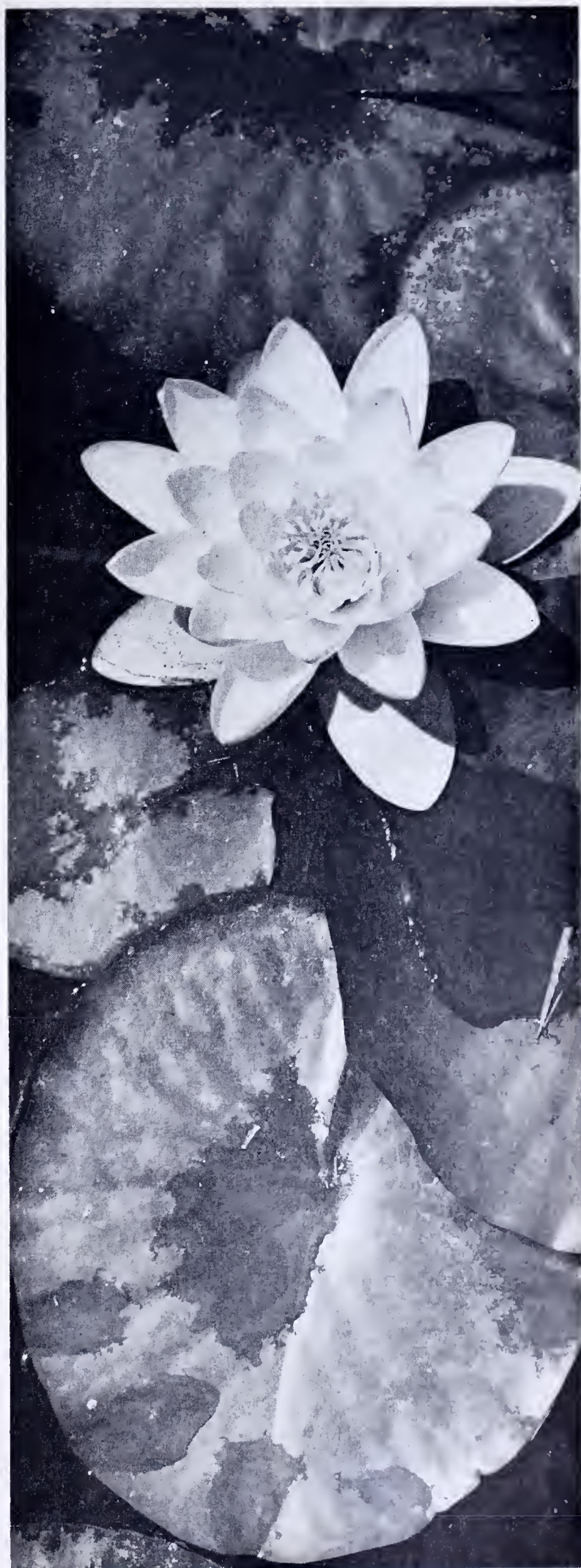
The morns are meeker than they were,
The nuts are getting brown;
The berry's cheek is plumper
The rose is out of town.

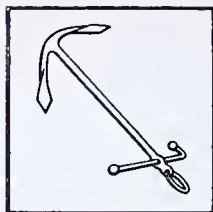
The maple wears a gayer scarf,
The field a scarlet gown.
Lest I should be old-fashioned,
I'll put a trinket on.

—Emily Dickson

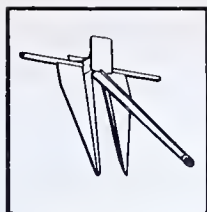
The continuity of life is never broken; the river flows onward and is lost to our sight; but under its new horizon it carries the same waters which it gathered under ours, and its unseen valleys are made glad by the offerings which are borne down to them from the past,—flowers, perchance, the germs of which its own waves had planted on the banks of Time.

—Whittier

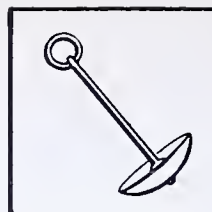




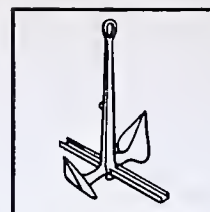
KEDGE



DANFORTH



MUSHROOM



NORTHILL

a way with **Anchors**

● It is not accidental that through the centuries the anchor has come to be the universally recognized symbol of the sea and the seafaring man. The intrepid mariner of old, dependent on the caprices of the wind and the water, knew full well that his life often hung on the slim thread of his anchor line.

While today's outboard skipper does not rely on the anchor as often as did his sailing forbearers, or even his present day big boat brethren, experienced outboard seamen never underestimate the value of a stout anchor and the skill to use it properly.

When we think of an anchor, or see one pictured, it's almost always the "yachtman's" or kedge type. Devised around 600 B.C., the kedge has survived the mutations of 25 centuries with slight change, still doing the job its forgotten inventor intended. Although it is widely used on larger craft, the kedge is generally conceded to be too heavy and too unwieldy for small boats.

Another older type, the mushroom, has the wide following among modern outboarders, especially fishermen interested in keeping a light boat from drifting while casting or stillfishing. While it holds about twice its own weight initially, the mushroom settles deeply into mud or silt over a period of time until it has tremendous holding power. It is popular for a permanent or semi-permanent mooring and is far superior to concrete blocks or iron auto wheels sometimes used for that purpose.

Innovations in anchor design have been slow in coming until relatively recent times when the light of modern science debunked old notions of the importance of sheer weight in determining holding power.

While many types of "patent" anchors have appeared on the market in recent years, the Danforth and the Northill are perhaps the best known among outboardmen. Both are efficient, light weight, compact and ideal for outboard use. Featuring broad, knife-like flukes designed to dig deeply as the anchor is pulled along the bottom, these anchors are regarded as standard equipment by many outboard skippers.

While concrete or granite blocks can be expected to hold about their own weight in water, these small patent anchors can effectively hold up to 1,000 times their own weight.

It is impossible to generalize about a particular type, size, or weight of anchor ideal for a particular boat. Experts agree that the choice depends on a number of considerations, including weight and shape of the hull, type of bottom generally encountered, usual weather conditions, and the purpose for which the anchor is most often used.

However, since the outboarder does not rely on winches and other ground tackle to raise or lower his "hook," as larger sail and inboard craft do, he must choose an anchor which is easily lifted and operated by one man (or even one woman).

Whatever the type of anchor used, the secret of successful anchoring rests in two things: Making the length (scope) of anchor line (rope) as long as possible, and keeping the anchor on its side so that its flukes can penetrate the bottom. Necessarily, the type of bottom will have a lot to do with the holding power of any given type of anchor.

If the anchorage is charted, symbols and abbreviations will tell the kind of bottom surface. Generally, a mixture of sand and clay is regarded as excellent and soupy mud or loose sand makes for poor holding power.

Although it is acknowledged that there is no such thing as too much scope, experts agree that the anchor line should be six or seven times the depth of the water. When anchoring in rough weather, the longer the scope the better. To keep the anchor horizontal to the bottom, a length of chain should be used between the line (½-inch Manila is sufficient for the largest outboard cruiser) and the anchor itself.

If heavy seas are running and the boat is being pounded by severe surging, try attaching lengths of chain or other weights to the anchor line at intervals—they will materially reduce the wave shock.

If chain is not available, use a splice rather than a knot to bend (or attach) the anchor line to the ring

of the anchor. Whereas splices weaken the rope about 10 per cent, bowlines will cut the strength of the anchor line by one half. If a knot must be used, the "anchor bend" is recommended.

Generally, the best anchoring procedure is to approach slowly into the wind, waves or current until the spot is reached; then lower the anchor and pay out the proper amount of line as the boat drifts leeward to its natural position. And remember—anchoring is the business of the skipper or someone he can trust. Many a beautiful and gleaming bow has been gouged by an inexperienced hand.

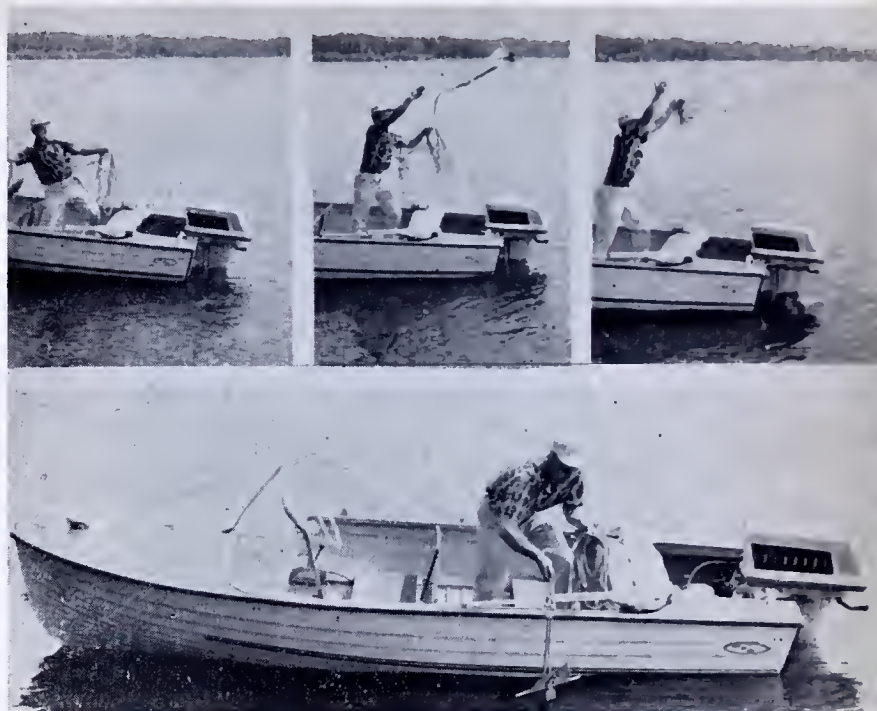
Before slowly lowering the anchor over the side (not wildly heaving it!), be sure the bitter end of the rope is secured to a cleat. Countless anchors have been lost because nobody noticed that the coil of line underfoot was attached to nothing but the hook.

If you're anchoring in company with other craft, watch the radius and direction of their swing and place yourself accordingly. Be careful of fouling someone else's line, or allowing a sudden wind shift to cause a collision or beaching.

When you are ready to weigh anchor, maneuver the boat until you are directly above the anchor, since most are designed to break free more easily when a vertical force is exerted. It's best to wait until the anchor is aboard before engaging the propellor again, since the line could foul the prop or the sharp anchor flukes could swing against the hull.

Occasionally, a small boat anchor becomes so embedded that it is difficult to dislodge, especially in a rocky bottom. The anchor can sometimes be broken free by slowing circling while keeping a strain on the line. Another method is to take in line until the rope is vertical, move occupants forward taking in all line possible, and then snubbing the line and shifting the weight aft.

The outboarder who runs aground on a sand bar or beach and cannot tilt his motor down to back off



RIGHT AND WRONG way to drop an anchor. Although somewhat exaggerated, the sequence of the top shows a man doing just about everything wrong. Below he drops his anchor easily over the side, and has his anchor line neatly coiled and in such a position that he will not become entangled in it.

often finds that he can get out in deep water by kedging, or carrying the anchor off the stern and then hauling in on the anchor line.

An anchor off the stern is also an excellent way to tie up to a lee shore (wind off the water onto the land) or tie up to a pier in choppy water. With the painter or bow line secured to the pier and the anchor holding the boat at right angles to it, a small boat can easily ride out rough weather—but be sure your transom is high enough to prevent shipping water over the stern. If you have a low transom cut-out, reverse the position of the boat with the bow anchored into the sea and the stern line tied to the pier.



Look, under that broad beech-tree I sat down when I was last this way a-fishing, and the birds in the adjoining grove seemed to have a friendly contention with an echo, whose dead voice seemed to live in a hollow tree, near to the brow of that primrose hill; there I sat viewing the silver streams glide silently towards their centre, the tempestuous sea; yet sometimes opposed by rugged roots, and pebble-stones, which broke their waves, and turned them into foam. . . .

The length of your line, to a man that knows how to handle his rod, and to cast it, is no manner of encumbrance, excepting in woody places and in landing of a fish, which every one that can afford to angle for pleasure has somebody to do it for him. And the length of line is a mighty advantage to the fishing at distance; and to fish fine, and far off, is the first and principal rule of Trout-Angling.

—Izaak Walton



Pennsylvania Game Commission Photo

IT'S OFFICIAL NOW . . . Albert M. Day sworn in as executive director of the Pennsylvania Fish Commission by John S. Rice, Commonwealth secretary. Mr. Day was elected by the Commission on July 18 to the office.

ABOUT THE DIRECTOR—

At its annual meeting, held July 18, the Pennsylvania Fish Commission selected Albert M. Day for the position of Executive Director. Mr. Day was chosen from a large list of applicants for the position in recognition of his many years of successful service in the field of conservation and fish.

Born in Humbolt, Nebraska in 1897, Day received his B.S. degree from the University of Wyoming in 1922, majoring in biological sciences. After serving a hitch in the Army Signal Corps, World War I, he returned to civilian life and joined the former Bureau of Biological Survey, now a part of the U. S. Fish and Wildlife Service.

During his long tenure of service with that agency, he served in many capacities including the organization and direction of the Pitman-Robertson Federal Aid program. Later serving as Assistant Director and special liaison officer for Military Affairs, he was selected as Director of the Service on April 1, 1946. Secretary Julius A. Krug appointed him to this position upon the retirement of Dr. Ira N. Gabrielson. He remained as head of the Service until 1953.

After retirement from the Federal service, he was associated with the Arctic Institute of North America in a research capacity. For the past two and one-half years, just prior to his Pennsylvania appointment, he served as Director of the Oregon Fish Commission.

Mr. Day has served on numerous national and international commissions dealing with fishery and wildlife matters. He is the author of two books and numerous popular articles and has long been associated with professional and sportsmen groups in the field of conservation. He served for several years as a National Director of the Izaak Walton League of America.

Mr. Day is married and is the father of three children, one daughter and two sons.

Fish Commission Biologists Meet at Benner Spring

Biologists and fishery managers of the Pennsylvania Fish Commission plus other notables met at Benner Spring Research Station on July 28-29 last. Gordon L. Trembley, Chief Aquatic Biologist introduced the agenda, the speakers and talked of the possibilities for fish management of the Delaware Canal.

Dr. Albert S. Hazzard, Assistant Executive Director, Pennsylvania Fish Commission explained Public Law 566 and its importance to the Commission program. Mr. Hazzard also made a report on the results of a preliminary study of the lower Susquehanna by Holmes and Bell.

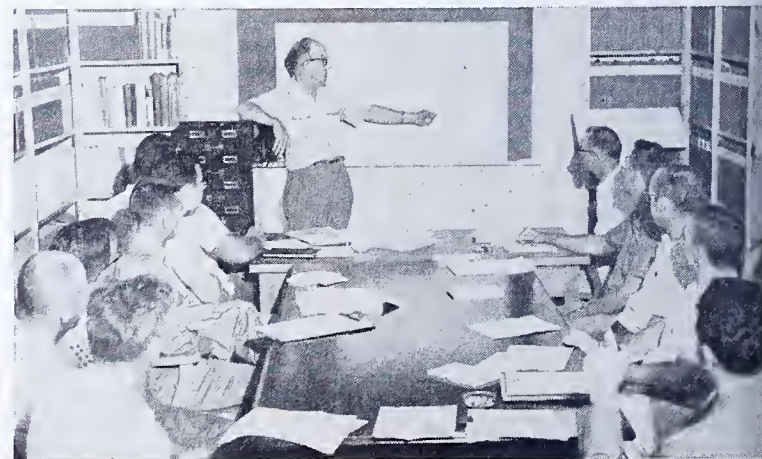
Robert Bielo, Fishery Manager for the Southeast District, made a resume of the 1960 results of the Tri-State Survey of the Delaware river (article this issue elsewhere in magazine).

Interesting talks were made by Dr. Neil D. Richmond, Curator, Section of Amphibians and Reptiles, Carnegie Museum, Pittsburgh, who is aiding Dr. Netting at the Museum in compiling the Fish Commission's reprint of the popular booklet, "Reptiles and Amphibians of Pennsylvania."

Dr. John E. Guilday, Section of Mammals, Carnegie Museum, Pittsburgh, revealed the results of excavations made at pre-historic Indian sites in Pennsylvania.

Terry Rader, Fishery Manager of the Northeast District gave a report on Lake Jean, Sullivan county waters, it's status following reclamation and restocking.

Fish Commissioners, Raymond M. Williams and Joseph M. Critchfield attended the meeting, were vitally interested in the work discussed, added their own constructive remarks to the meeting in general.



FISHERY MANAGERS throughout the state receive briefing from Dr. Hazzard at Benner Spring meeting.

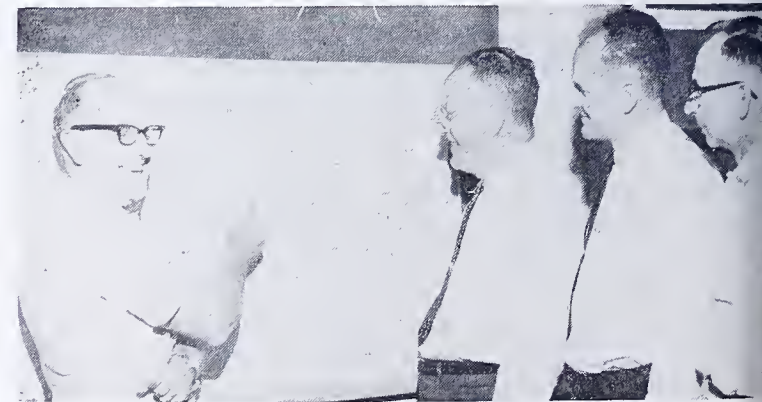
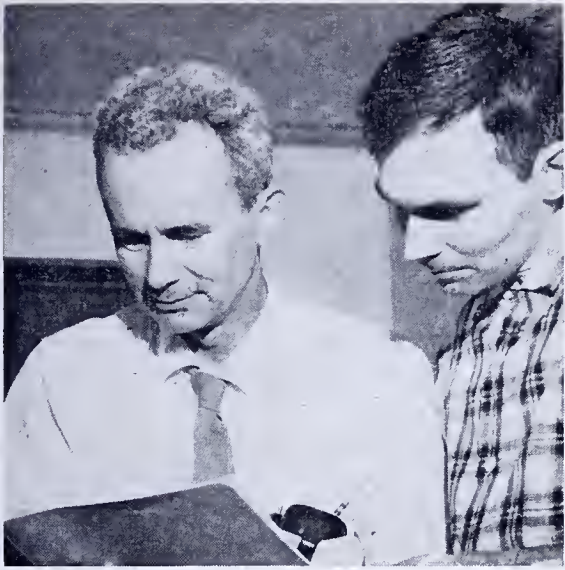


CHART TALK is given by Dr. Albert Hazzard, Assistant Executive Director, Pennsylvania Fish Commission, on projected watershed impoundments, to Commissioners Joseph M. Critchfield, Raymond M. Williams, and Chief Aquatic Biologist Gordon Trembley.



FEATURE SPEAKERS, Dr. Neil D. Richmond, Curator, Section of Amphians and Reptiles, Carnegie Museum, Pittsburgh and Dr. John E. Guilday, Section of Mammals, also Carnegie Museum.

More Fishing Waters for Anglers

A statewide watershed improvement, flood control project with enlarged impoundments to provide more fishing waters for Pennsylvania anglers gathered momentum when fishery managers of the Pennsylvania Fish Commission and research biologists from throughout the state met recently at Benner Spring Research Station, Bellefonte.

Both funds and personnel to complete the job are now available by authority of Public Law 566 and by the authority of the Commission itself. Fish Commission biologists and technical workers will take part in a program geared by the U. S. Soil Conservation Service and Dingell-Johnson appropriations, in support of which the Fish Commission itself will provide monies from fishing license revenue of only 12½ cents on the dollar.

Fishing lakes, open to general public access, must be 50 acres or more in area when completed. It is estimated the Mill Run watershed, Crawford County, improvement project will reach 500 acres of additional fishing waters for anglers upon completion. The Real Estate Division of the Pennsylvania Fish Commission is now acquiring land here and elsewhere in the state where similar lake impoundments, watershed and flood control improvements are scheduled.



THOSE ATTENDING biologist's meeting, Benner Spring: (L-R) 1st row—Alfred Larsen, Arthur Bradford, Curtis Simes, William E. Daugherty, Commissioner Joseph M. Critchfield. Row 2—Dave Daniels, Dan Reinhold, Keen Buss, Gordon Trembley, Dr. Albert S. Hazzard, Assistant Executive Director, Fish Commission. Row 3—Jack Miller, Robert Bielo, Dan Heyl, Terry Rader, Commissioner Raymond M. Williams, Jack Reddecliff. Top row—Minter Jones, Warden Supervisor and George Forrest—Editor Pennsylvania Angler.



NOT AN ANTIQUE TRUCK PARADE, it's the actual line-up photo of the old work horses at Pleasant Mount hatchery believed to be around 1920.



PLEASANT MOUNT veterans, of the 19 regularly employed personnel at the hatchery, are: (l-r) Philip Stock, 33 years service yet only 55 years old; George Pazel, 21 years service; John Muldowney, 15 years. Pazel and Muldowney will retire in the fall.

HUNTSDALE veterans are (l-r) Ted Dingle, 40 years service; Metro Dorsh, 35 years, Paul Pechart, 23 years, Willard Ralston, 26 years service. Earl Weibley started in '48 but will retire soon. He's now 63 years of age.



THE fog - - -

By D. D. DOUBLE

KANTBY little worried over fog he never described as being "thick as pea soup" because he thoroughly detested pea soup. But then he knew every bank, ledge, beer can and eddy in HIS river . . . and it, the fog, was merely coincidental. Yet the fog, this early morning, annoyed Kantby. It was unlike other fogs. This one made him head-scratchingly uneasy. It got on his back.

Shaking it aside he shoved off shore, oared out to a depth, dropped the motor, with an expert pull spun it over, warmed it a bit then idled down, moving slowly upstream against the current.

The bridge, . . . thought Kantby, . . . when I reach the bridge, . . . the familiar bridge, I can work the piers until this stuff lifts. The motor droned smoothly on as he strained 20-20 vision to part the shroud that sought like a curse to engulf him in a vast holocaust of vapor.

Certainly, he mused, I must soon be at the bridge. Where was that blasted bridge? . . . that elusive familiar beacon? . . . that tightening tingle up the back of the neck? . . . that queer churning at the belt line? Had he missed the piers, gone on thru in the fog? . . . this festering fog, if you could still call it fog. By some alien magic it seemed to have been displaced by a Gloom. Kantby watched, utterly fascinated, as the macabre Gloom assumed the shading of black velvet. Thru a crystalline haze, Kantby's boat glided onto a part of the river so strange, so bizarre, yet so beautiful, it took Kantby's breath and a large part of his reason.

The river was black ebony. The shores were five-dimensional suede with halos of softness overcompassed by a Royal Blue sky neither lightning light nor dusky dark. How had some sorcerer so swiftly

masked Kantby's eyes with this deepest of azure glows?

In the distant black and blue panorama he saw boats of pure white alabaster teetering gently on soothing swells and, as he approached a nearer vessel, he saw in it a man fishing with a long unique rod.

Kantby shoved the throttle to off, eased cautiously to the strange craft. Thinking of nothing else to say he queried, . . . "How they bitin' "?

"Oh, fine!" exclaimed the strange Angler. "But I must soon stop for I am quickly running out of coins."

"You mean running out of bait, pardner . . . say what place is this?"

"Fisherman's Paradise!" declared the Angler. "Haven't you ever heard of it?"

"Sure I heard of it but I can't remember it looking quite like this."

"Oh, well," replied the Angler. "Looks are rarely relevant . . . say, could you use some fish, I'm shy only one of the limit and my wife and I do not eat fish?"

"What kind of fish are they?" asked Kantby cautiously.

"They're the new E-2's bearing the new hybrid mutant series tag."

Of course, Kantby had never heard of E-2's nor of a new whoozis tag series but he was now quite willing to take the entire treatment.

"OK, then," said Kantby to the Angler. "I'll take a few . . . neither my wife nor I eat them but Mrs. Filchby, our neighborlady loves 'em."

As the Angler handed over the fish, Kantby noticed the curious arrangement on the handle of the odd rod, a sort of black box with numerous buttons, knobs, dials and indicators. Never especially renowned for modesty nor timidity, Kantby demanded to know what sort of contraption it was.

Sniffed the Angler, "Oh, we all use them up here on the River of Sighs . . . they're radar equipped you know. See this knob. You turn it clockwise for poundage, counterclockwise for length adjust the **Zoomeray**, place your coin in the slot and start fishing. It's simple, it's what we call '**Paynfish**'."

"You mean a sort of 'pay-as-you-go' fishing?" scoffed Kantby. "Horseshoes! Now I've heard everything . . . this can't be!"

"Oh, but it can be and it is," averred the Angler. "We have limits on fish according to size and weight on this scale. It also tells you how much per pound you pay for the fish you choose to ray and play but, of course, you may play him into the next eon from here to the Sea of Regret if you so wish, **AFTER** you put the correct number of coins in the slot. Won't work if you don't."

"You mean," asked Kantby incredulously, "You can catch any size, any weight fish you want by simply twisting a little old dial and punching a cotton-pickin' button on that rod handle and puttin' coins in that slot?"

"Exactly!" replied the Angler. "And that isn't all. Our biologists over at the Sea of Sorrows hatcheries have perfected a hybrid fish several of which I just gave you, that are totally boneless. We popularly call them 'Fighting Fillets'. I disremember their scientific designation . . . it's much too drearily long."

"Holy Mackerel!" quoth Kantby, taking a good squint at the fish. "They have no heads nor tails!"

"No," agreed the amused Angler. "This new E-2 series also has perforated heads and tails that can easily be torn off on the dotted lines, and, in addition, they are totally scaleless!"

"But you've still got to gut 'em!" insisted the thoroughly overwhelmed Kantby.



"Horrors!" shrieked the shocked Angler. "Our biologists, some 100 eras ago, bred them gutless."

"Why, by George, they don't even smell fishy!" ejaculated Kantby.

"Of course not, sir," replied the indignant Angler. "Our biologists took that obnoxious fishy smell out of them eons ago!"

Awed, Kantby drew upon his last dram of discretion to avoid asking the already annoyed Angler if they actually tasted like fish.

"Wow! . . . do you mind if I take these home with me?" pleaded Kantby.

"They are yours to do with as you desire, my friend . . . and now I must be rocketing off . . . my wife hits the stratosphere if I'm tardy for a capsuletime snack. See you around again, fella."

Completely fogged, in a lazy kind of stupor, Kantby cranked up the motor, headed downstream, pondering like he never pondered before. He slipped thru the bridge piers without knowing, caring less.

And now he was home, dazedly walking the fish over to Mrs. Filchby's house mumbling something about it being urgent to see his biologist first thing in the morning.

"It can't be . . . It—just—simply—can't—be," muttered Kantby over and over and again.

Even the rasping, loudmouthed, goodhumored Mrs. Filchby couldn't quite dispel the E-2 series hangover.

"Well, I see you finally got a mess of fish, you loafer, . . . are they cleaned?"





—May the roads rise with you, and the winds be always at your back, and may the good Lord hold you in the hollow of his hand. . . .



MR. CHANNEL EIGHT, the "eight thousand dollar fish" meant an \$8,000 check for Howard L. Brown (left) of Lancaster, Pa., who snagged the 16-inch bass, only 18 days after it had been released, in the Susquehanna River along the bank at Pequea. The television station WGAL released a total of 500 fish valued at \$50 and \$25. About 200 prize tags have been turned in. Contest closes December 31, 1960. All fish were placed in the Susquehanna River between Sunbury and Conowingo Dam, Maryland.



—Clearfield Progress Photo

BLACK MOSHANNON MUSKIE one of the first to be snagged since the dam was stocked on December 31, 1956. Albert L. Graham fought this 36-inch, 12 pound muskie to a standstill after quite a hassle. He used a small French spinner on 6-lb. test monofilament line. Another indication musky stocking in Pennsylvania is commencing to pay off.

Too low they build who build beneath the stars.
—Young

September Tip

A little paraffin wax applied to zippers on camping equipment and outdoor clothing will keep them from rusting and sticking.

Take Your Fishing License With You!

Fishermen are reminded that it is necessary at all times to have your fishing license with you while fishing.

The Law Enforcement Division of the Commission in checking fishermen are finding many cases where licenses have been left at home, only to find on further routine checking that in some cases the fisherman did not have a license and of course was fined \$25.

There have been cases where the warden gave these fishermen an opportunity to prove their statement by allowing a few days to produce the license. In some instances, it was found that a license was immediately procured but the angler had falsified the purchase date by predating it to make it appear that the license had been purchased prior to the time he was checked by the warden.

The Commission also pointed out that a fishing license agent found guilty of predating a license is not only subject to a fine, but also the loss of his license agency.



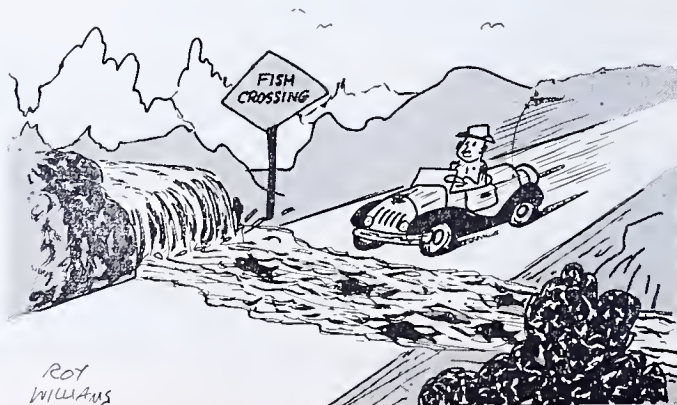
CHARLES R. VORES of Waynesboro, Pa., got this 22½-inch brown trout out of the Little Antietam Creek, Franklin County.

A guy was sailing out on Lake Erie in a fog when a new 40-foot power boat loomed up.

"Which way to Erie?" shouted the man at wheel of the power boat.

The yachtsman got out his parallel rule and laid a course on the chart. "East by north by half a north."

"Don't get technical," the other man shouted. "Just point!"





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PENNSYLVANIA ANGLER

October 1960



- * Largemouth Bass in Pennsylvania
- * Romance of Boats
- * White Ghosts
- * Bass Bug Trilogy
- * The Last Ferry Tale

Is the Fly Fisherman on the Way Out?

The Pennsylvania Angler

interviews

MR. ALBERT M. DAY, Executive Director Pennsylvania Fish Commission

Mr. Day, we ask the following questions on an important issue frequently asked by young people seeking a niche in the field of Conservation:

Q. Can young people find jobs in Conservation today or is it just another saturated field?

A. Generally, students in the schools which now teach courses in the various fields of conservation can expect to find employment upon graduation. This specialty, like all scientific fields, calls more and more upon college graduates to fill its more responsible positions. The opportunities here are not as great as they are in the electronic, chemical and specialized engineering fields, but they compare favorably with demands in most other professions.

Q. Obviously, few will become wealthy working in the field of Conservation, but does it offer a young person a reasonable measure of job and financial security?

A. Employment in the Conservation field provides as satisfactory job security as in almost any professional field. The Federal and State agencies, which are the principal employers, are normally stable and reliable places to work. Largely gone are the days when conservation agencies were the easy marks of the politicians. Job tenure protected by merit systems of various kinds are now almost universal. As you point out, young people should not enter the field with any false thought of becoming wealthy. In my long experience in this field, I have never met a professional worker who became a millionaire.

Q. While youth, serious youth, may not demand high salaries they do insist on interesting challenges. Will they or can they find them?

A. Challenges, you say. Ah—there you have it! There is no field of endeavor where there is greater invitation to imagination and initiative than here. With human populations increasing at a rapid rate, with new demands upon our streams, our forests, our soils, and our fish and wildlife resources, conservation calls for those young folks who are willing to tackle the difficult.

Q. Would you say a young person can expect a full, satisfying professional career or is he likely to find it only a political rut?

A. Perhaps the best answer to this question is to study of the characters of the folks who are

now in conservation. Find a person who has spent his life protecting our woods, waters, wildlife and soils, and you will find someone who is happy and contented. A famous conservationist friend of mine has often said "The world has been good to me, I have been paid all my life to do the things that I wanted to do anyhow." Most of us in this field feel the same way.

Q. Many young folks believe conservation is the smallest, most insignificant of departments in either state or federal government. Why, if they are as important as they claim, should this be so?

A. Conservation is important. When we look into the demands by future generations on our soils, waters and other natural resources, it may well be the most important element in our national existence. At present, that realization has not been widely accepted. In America, we seldom get excited about abuses until they become severe. As time goes on, the conservation and restoration of our God-given blessings will be accorded greater public support.

Q. Youth has been led to believe conservation is fighting a "rear guard" action, hardly compatible with the American desire to play on a "winning" team. Is this true?

A. Perhaps conservationists do find themselves fighting "rear guard" actions. The forces of exploration are powerful and persistent. Industries which have polluted our streams for years resist the expenditure of funds for treatment plants. Lumber interests want to move in on public forests. Selfish interests wish to exploit our fish and wildlife sanctuaries. Had it not been for dedicated conservationists fighting battles such as these, we would have far less in this vital field than we have today. My hat is off to the "rear guard" fighters. We need more of them.

Q. Youth wants to know—"where is the goal line?"

A. The "goal line" is always ahead—the place where the conservationist army forms and stands firm against further befouling of our public waters, needless waste of forests and soils and unwise exploitation of our fish and wildlife resources. The "goal" is that our children and our children's children may also have the opportunity to enjoy what we today take for granted.

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The Age and Growth of the **LARGEMOUTH BASS** *in Pennsylvania*

*Main Street
Anywhere,
Pennsylvania*

*Pennsylvania Fish Commission
Harrisburg, Pennsylvania*

Gentlemen:

I am an ardent fisherman. For years I have been catching fish, but I have had no idea how fast they grow or how old they are. I am enclosing scales of one of the large largemouth bass I caught on my vacation in the Poconos. Can you please tell me how old it is? Can you tell me how fast largemouth bass are expected to grow in Pennsylvania?

Thank you.

*Sincerely yours,
JOE FISHERMAN*

PENNSYLVANIA FISH COMMISSION
Harrisburg

Mr. Joe Fisherman
Anywhere, Pennsylvania

Dear Joe:

Yes, we can tell you the age of your fish. In fact, we can do a little better than that. We can tell you how fast he grew in the past. Since the scale grows in proportion to the length of the fish, the annuli or year marks (similar to the annular rings in a tree) are not only indications of the fish's age and growth when caught but also indicators of how fast he grew in previous years. For instance, supposing a fish was three years old and nine inches long. There is one annulus $\frac{1}{3}$ of the length from the growth

PART I

By

JACK MILLER and KEEN BUSS
Fishery Biologists
Pennsylvania Fish Commission

center of the scale, another at $\frac{2}{3}$ the length of the scale and another at the edge of the scale. This would mean that the fish was three inches long the first year, six inches long the second and of course he was nine inches long at the third annulus when you caught him. You realize of course that this is a hypothetical case and reading scales is not always this simple. It is particularly difficult when the fish grow older and the growth of the fish is subject to many other influencing factors such as spawning, illness, poor water conditions for optimum growth, change in competitive species and all the other environmental pitfalls that can befall a fish. These influencing factors and adverse conditions often cause false annuli which are difficult to differentiate from the valid year mark. Therefore, they present their problems.

Aging fish is not just merely a case of satisfying our curiosity, but it is a method of ascertaining the well-being of the fish in a lake or stream. Aging of fish also tells us (along with other information such as the water chemistry, topography of the lake, species composition, etc.) what measures are necessary to manage the lake. For instance, in Table I you will notice that the growth of largemouth bass was very slow in Cowan's Gap Dam. In fact, these bass were between seven and eight years old before they



reached the legal size of nine inches. This dam was obviously a marginal lake for largemouth bass. Because of the overpopulation of other species and generally poor environment this dam was converted to trout water.

The initial growth of largemouth bass was very slow in Upper Woods Pond because of marginal conditions. Population densities of all warm water fish were very low. This, too, was converted to a trout lake. Brady's Lake in Monroe County produced few bass because of the competition for food from other species.

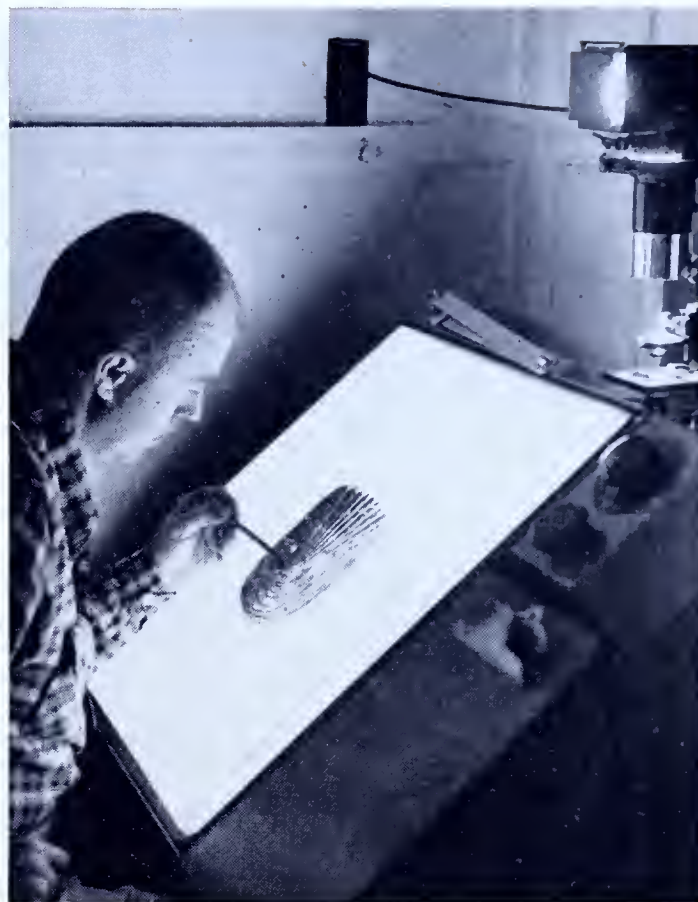
Reinings Pond in Wayne County had good initial growth but the growth fell off on the larger sizes, probably because of the greater number of large bass competing with each other. Incidentally the growth in Reinings Pond is about average for this species throughout the north temperate zone.

Just about now you are saying "Gee, those bass grow slow. I know a farmer who stocked his farm pond with fingerlings and in two years had eleven inch fish."

That may be true, Joe, but remember those bass were stocked in an ideal environment. They had very little competition from their own species or other species; diseases and parasites which may be considered predators have had little chance to build up; and the space was available for the growth and expansion of the species. These are some of the reasons for the exceptionally fast growth of fish in new environments.

If you are wondering about the relative weight and length of largemouth bass, here is a little chart prepared from national averages.

<i>Length</i> (Inches)	<i>Weight</i> (Ounces)
2	0.1
4	0.6
6	1.9
8	4.5
10	8.8
11	12.0
12	15.0
14	25.0
16	36.0
18	51.0
20	68.0
22	78.0



LIFE STORY of the fish can be read from this fish scale.

Notice how fast the bass begin to put on fighting weight after they reach ten inches and one-half pound. An eleven inch fish weighs three-fourths of a pound and a twelve incher weighs almost one pound. You will also notice that a twenty-two inch fish weighs about five pounds, but if you look on the growth table you will see that it took this old fellow probably eight or more years to make the grade of a trophy fish.

Well, Joe, this should answer your questions and give you some idea of the age and growth of largemouth bass in Pennsylvania. If you watch the *ANGLER* in the future, you will find a series of articles on the age and growth of many of Pennsylvania's game and pan fish.

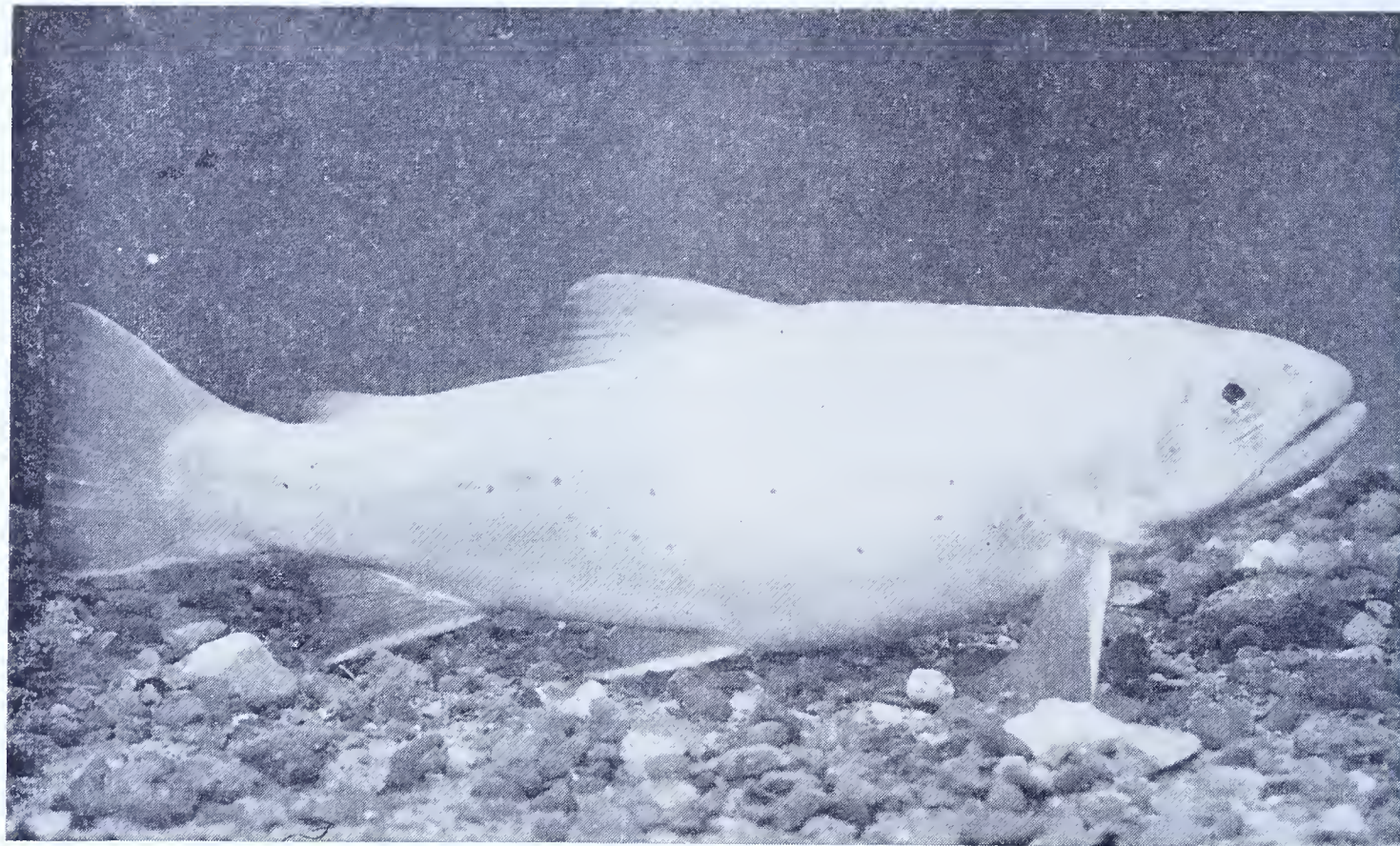
Sincerely yours,

PENNSYLVANIA FISH COMMISSION

TABLE I

Average Calculated Total Length at Each Annulus for
Largemouth Bass in Four Pennsylvania Lakes

<i>Lake and County</i>	<i>Number of Specimens</i>	Age								
		I	II	III	IV	V	VI	VII	VIII	IX
Brady's Lake, Monroe County	14	2.4	7.6	10.6	13.3	14.4	15.7	16.8	19.3	
Cowan's Gap Dam, Fulton County	26	1.3	2.6	3.9	4.8	5.9	7.3	8.7	10.2	11.4
Upper Wood's Pond, Wayne County	22	2.9	6.4	10.4	13.7	15.8				
Reinings Pond, Wayne County	38	3.3	7.7	10.9	12.9	14.4	17.1	19.1	20.0	



the White Ghosts

By DEWEY SORENSON

*Superintendent of Hatcheries
Pennsylvania Fish Commission*

*Photos by Johnny Nicholas
Chief Photographer
Pennsylvania Fish Commission*

of Pleasant Gap...



*... believe only what you see? ... ever see a
black ghost ... no? ... we have some nice
white ones that take lovely shapes right
before your very eyes ... come!*

■ Folks no longer are impressed, even a bit frightened by zombies, werewolves, vampires, spooks, poltergeists or a good ghastly ghost that knows his or her business. The threat of the unmentionable "Big Blow" has thrust aside, very rudely, such ancient bogeymen into a long lost category of the asafetida bag. Which does not, however, make them less intriguing to read about even during these blasé, sophisticated times.

Albinos, among the wild things in days bygone, were often declared supernatural, sinister, abnormal, supernormal, were to be shunned. Herman Melville's classic "Moby Dick," is still required reading in many of our public school English and reading courses. It tells of an albino whale that becomes a fetish of revenge for a whaling man after the "white ghost" makes a bloody stump out of his starboard leg.

At times, Dame Nature plays cruel tricks on her children of field, forest and stream, taking away all protective coloration, making them easy targets of predator, hunter and fisherman. Few reach a ripe old age though they become more swift of leg, wing or fin.

At the Pleasant Gap fish cultural station the "white ghosts" or albino trout on display are offspring from three

albino brook trout grown at the Corry hatchery about 1920. At that time from one million brook trout eggs hatched we would usually find approximately 10 to 15 true albinos. The three grown at Corry were the first we had been successfully able to rear to maturity.

Albinism originates in the genes, mysterious carriers of heredity that determine the characteristics of all animals before they are born. Students of the subject say albinism is a recessive genetic character. If two true albinos mate, all the young are albinistic. If an albino mates with a normal animal, each young inherits some gene that determines albinism, the other determines the normal which color is dominant, yet, genetically the animal is actually half albino.

The true albino has white skin and pink eyes. The first three generations of offspring from the original three grown at the Corry hatchery all had the white skin and pink eyes. However, the fourth generation produced some fish with dark eyes and some with pink eyes. All later generations have produced trout with white skins and the color of their eyes have been mixed . . . some fish with pink eyes, some with dark eyes.

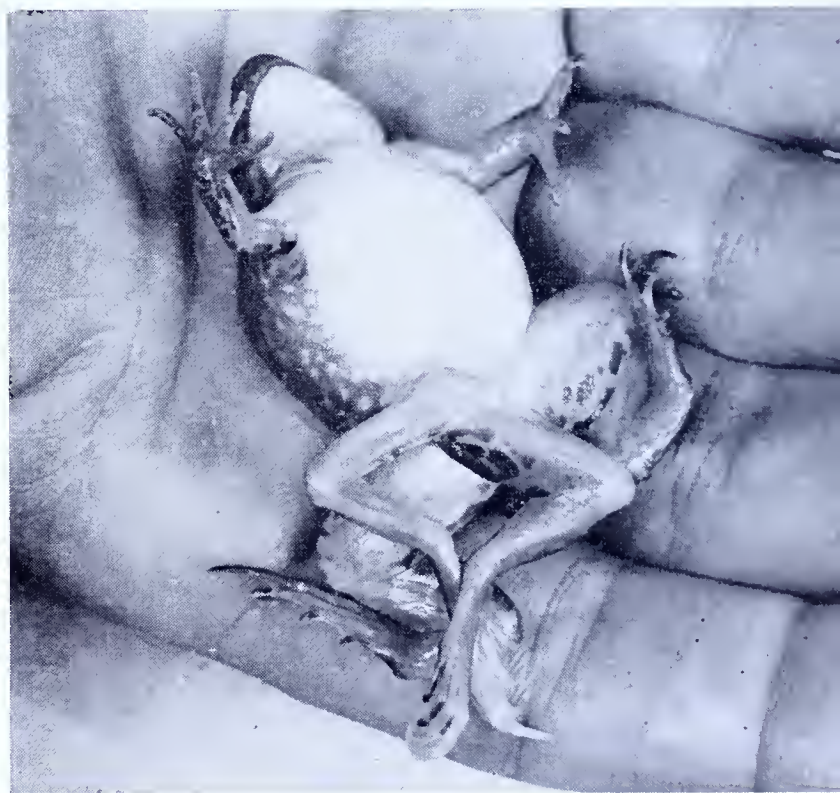
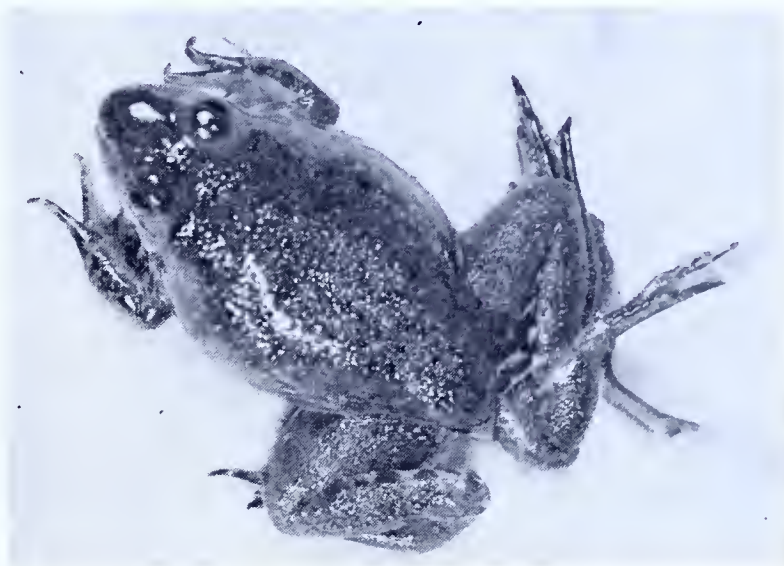
We are now attempting to produce a true strain of albinos by using only fish with pink eyes for breeding purposes. A limited number of "white ghosts" are on display at Pleasant Gap hatchery for the interest of visitors. Also at Huntsdale, Reynoldsdale, Pleasant Mount and Corry Stations.

There are many more intriguing, interesting fish at our state hatcheries, operated and maintained throughout the Commonwealth by the Pennsylvania Fish Commission. They are strategically located at Bellefonte in Centre County, Linesville in Crawford County, Huntsdale in Cumberland County, Pleasant Mount in Wayne County, Reynoldsdale in Bedford County, Tionesta in Forest County and Union City, Corry and Erie in Erie County. A tenth station is devoted to fish cultural research at Benner Spring near Bellefonte, Centre County.

Why not select the hatchery nearest you and take the family for a visit? Not only will it be fun for everyone but highly educational as well.



PAGE MARK TWAIN . . a six-legged frog!



If Mark Twain could have entered this unusual fellow in that humorous jumping contest he wrote about years ago, he would have had a contestant two up on the nearest rival.

This six-legged frog was captured by 9-year old Barbara Gajda of R. D. #2 New Wilmington, Pa. Miss Barbara was visiting John Youngblood of Jamestown, Pa. R. D. 1. Mr. Youngblood operates a commercial propagation plant and Barbara was helping him in a seining operation when she noticed the creature. Yep . . . Mr. Froggie had six legs; front legs normal, back legs normal, shaped as usual but the extra pair were found to be of no use to the frog, more's the pity! Warden Raymond L. Hoover covered the story for the PENNSYLVANIA ANGLER and came up with these two fine photos. Convinced?

Parasitic Worms

in Fish —

a perennial problem

By **ARTHUR D. BRADFORD**
Assistant Chief Aquatic Biologist
Pennsylvania Fish Commission

■ If one could say to any school of fish, "All of you who have parasites of some kind or other please leave immediately," and if the fish so addressed were able to respond, probably all would leave. A similar situation exists in wild animals and even man, although man is better able to control and eliminate many of his parasitic inhabitants. In other words, "where there is life," there may or may not be your favorite beverage but most certainly there will be some kind of parasite.

Pennsylvania fishermen often encounter wormy or grubby fish especially in some of the warm water species.

The most common form reported is the "yellow grub," a small yellowish worm parasite which encysts in the flesh or beneath the skin of fishes and often causes wart-like bumps. Other parasites frequently encountered in fish include the "larval red round-worm" a small thread-like form found in the flesh, small white grubs in the liver and soft tissues, small black appearing specks just under the skin, tapeworms in the intestinal tract and leeches and flatworms attached to the external surface areas of the fins.

All right, so fish like other wild life have parasites, but are wormy fish edible? The answer as far as Pennsylvania is concerned is most certainly yes. Most fish parasites could probably be swallowed alive without any danger. However, thorough cooking of wormy fish makes them absolutely safe. There is only one fish parasite in North America that is known to normally infect man. This is the broad tape worm found in the midwest in the Great Lakes region.

Many of the worm parasites of fish have rather complex life cycles which involve more than one host. The yellow grub belongs to this group and a study of its life cycle shows that it is dependent upon fish-eating birds and snails for completion.

When a fish-eating bird, such as a heron or bittern, eats a fish infected with yellow grub, some of the young worms grow to maturity and remain attached to the throat or mouth of the bird. Each worm lays countless numbers of eggs which pass through the bird and are often deposited in the water. Here the eggs hatch and the minute worms penetrate, if present, some species of snail. In this host the parasites undergo further changes and emerge from the snail in a form that can penetrate fish. If a suitable fish or frog host is encountered, such as a perch, bass or sunfish, the parasite enters, encysts and causes the grubby condition. The infection occurs during the summer but by

—Courtesy New York Conservation

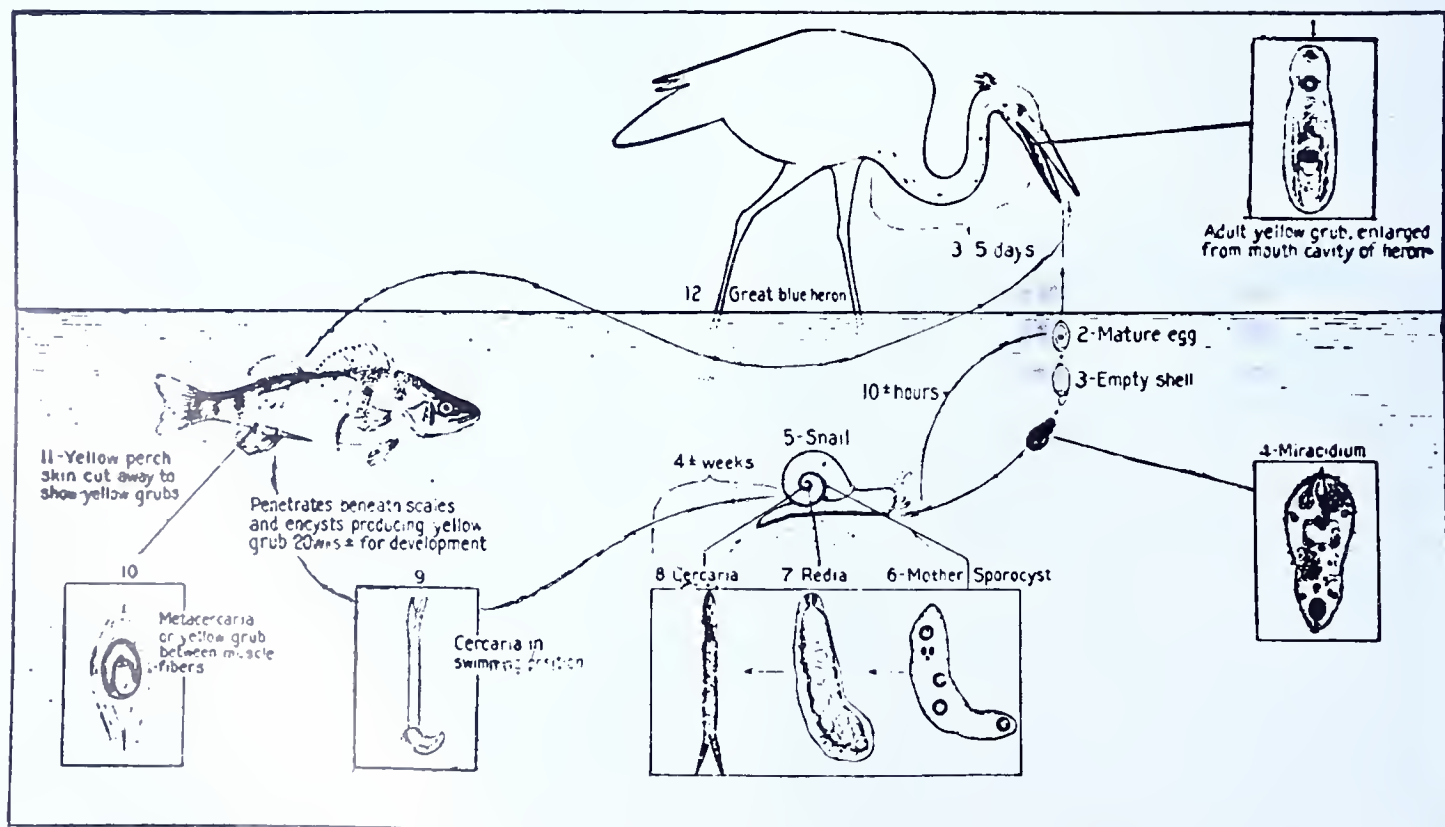


FIG. 13. Diagram of the life cycle of the yellow grub of fish (*Clinostomum marginatum*).

late fall the worms leave and the fish are generally free from these parasites during the winter. Infections with even great numbers of yellow grubs do not appear to be fatal or to injure fish to any noticeable extent.

Other fish parasites have life histories equally or less complicated than the yellow grub. Wormy fish are encountered in wild lakes and streams over a wide area including Canada and the condition is not in any way connected with pollution. As shown above, the life cycle of the yellow grub depends on the snails and fish-eating birds and the heaviest infections are found in shallow waters where birds, fish and snails are most closely associated.

Worm parasites in fish are certainly not new for they have been described a hundred years ago and were no doubt present when the white settlers first set foot on American soil. Also, these parasites are going to be with us for some time to come as control measures are very difficult and certainly not practical as yet for wild fish populations. The moral of this story should be then not to let a few parasites mar a good day's fishing. They are bound to be present but are not harmful, so why worry about them.



THIS CREEK CHUB has a heavy infection of "black grub." Each tiny speck contains an encysted worm parasite. The worm itself is not black but the fish deposits a black pigmented layer around each one. Fishermen may often see this parasite in bait minnows.



YELLOW PERCH infected with black grubs (just beneath the skin) and yellow grubs (end of forceps in the cut-away section).

Spring is a serenade . . . autumn is a nocturne. Autumn is youthful, mirthful, frolicsome . . . the child of summer's joy and on every side there are suggestions of juvenility and mischief. Spring is a lovely maiden; Summer a radiant bride; but Autumn is a tomboy whose occasional quietness is more alarming than his noisiest escapades.

—Wray

the switch from

PIKE to

SMELT . . .

● The U. S. Fish and Wildlife Service predicts the Erie fishing industry will be expanded in the near future to a point unheard of by commercial fishermen but the revitalization will mean a switch from pike to smelt.

Federal teams are currently charting Lake Erie to pinpoint schools of smelt and report findings of concentrations almost beyond belief. Although the group has been stationed at Erie only recently, the aides have discovered thousands of tons of the fish in Erie County waters.

Gourmets say smelt are delicious eating. Averaging six inches in length, they were originally transplanted from the North Atlantic to a small lake in Michigan. In 1936 the first smelt were discovered in Lake Erie off Port Dover, Canada. With blue pike being so abundant, however, smelt were ignored by commercial fishermen.

Wildlife specialists say they have records showing that the temperature of the lake has been slowly rising to become less suitable for blue pike. While the blue pike may be waning the smelt, properly harvested, could become Lake Erie's greatest smelt producing waters in the nation.

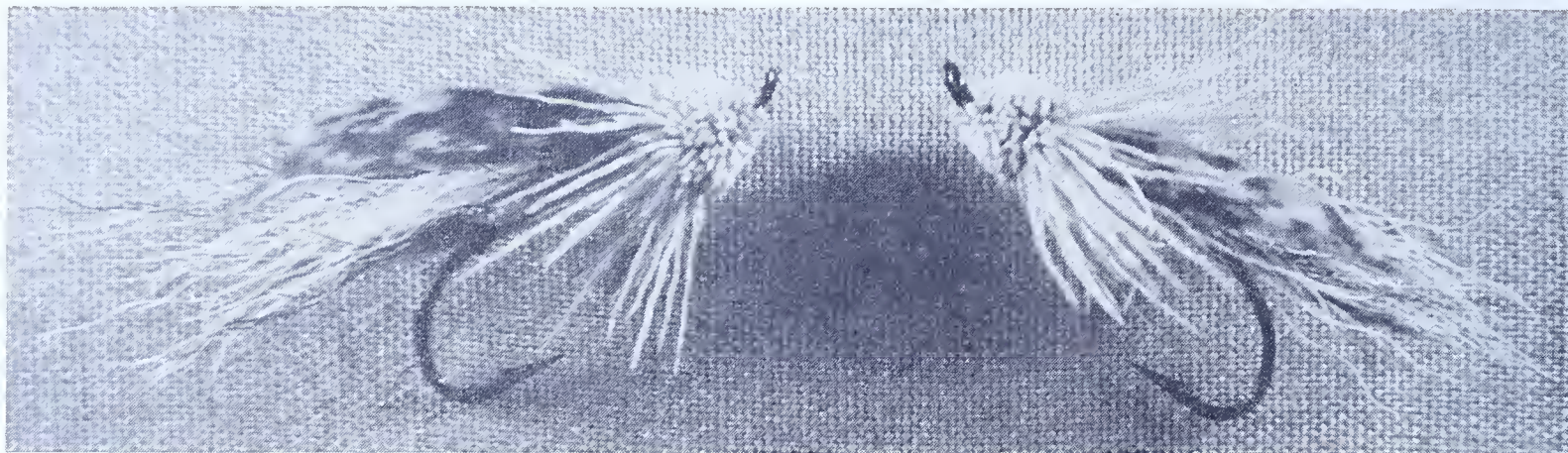
Big problem now is to get the housewife to agree smelt are among the easiest fish to prepare and one of the most delicious-tasting in the world. It has been suggested that more smelt be used at public fish fries. Perhaps the advertising boys will be able to come up with a more suitable sounding name for the fish with the currently "fishy" smelling name.

Another problem is legislation. It has been suggested that Pennsylvania revise its laws to allow trawlers to operate closer than the present 16-mile limit. Ohio has already put the OK on trawlers moving inshore.

Then too, commercial fishermen must convert their gear from the now popular gill net boats to trawlers. This is going to cost somebody a lot of money.

U. S. Fish and Wildlife experts see smelt, at first, supplementing catches of perch, walleyes and the blue pike, then, to grow into the major harvest of the lake. Canada fishermen already have established three processing plants and are trawling hundreds of thousands of pounds of smelt from Lake Erie. The Canadians, reportedly, have already sown up some major U. S. food chain stores.

Fishermen at Erie could regain their rightful status among commercial fishermen if modern methods of catching, handling and processing smelt were adopted.



MUDDLER MINNOW

■ There are two physical characteristics by which the fly rod bass fisherman/fly tyer can be positively identified: bloodshot eyes (from making bass bugs until the wee hours) and rounded shoulders (from wearing an over-stuffed jacket laden with box after box filled with his pet creations). This is inevitable, for few fishermen admit having enough lures.

Not of a disposition to be easily satisfied, he keeps adding to his collection (never discarding) until the number of bugs in his kit reaches astronomical proportions. Often, in this quest for "something better," the old tried and true are relegated to a secondary position. This, is regrettable, for old favorites are like old friends: they are sometimes taken for granted and a re-acquaintance has to be made from time to time to fully appreciate them.

In looking over my own kit of bass bugs I find, among the many dozens of foolish brainstorms, three patterns which have been far more effective for me in the past ten years than all the others of my collection. Each represents a different class of surface food attractive to bass and the three patterns are described below, not necessarily in the order of their effectiveness, for each is effective in its own way according to conditions and the whims of the bass.

1. Gill Bug

Body: Heavy chenille

Wing and head: Body hair of deer or antelope

The Gill Bug was a product of the creative mind of the late Paul Young, Detroit's famous custom rod builder and fly tyer. Originally made in small sizes for the big bluegills of Michigan's lakes and ponds, the Gill Bug proved to be a natural for largemouth bass when tied in the larger sizes.

My own particular preference in the Gill Bug is one tied on a size #4, Mustad #94833 (3x fine) hook, with yellow and black bee body, and a white wing and head of the coarsest deer body hair I can find. Those tied with natural gray and dyed black deer hair are also effective.

The Gill Bug casts easily, and a little line dressing worked into the chenille body, as well as the leader, will insure a high flotation. Try working it around lily pads or weed beds, but take it easy, for this is a moth-type bug which should be worked slowly with slight twitches or an occasional fluttery movement. By tying the Gill Bug with the hook upside down it becomes a first class weedless

a trilogy

By **CHAUNCY K. LIVELY**

bug which can be east back into the pockets in the lily pads and worked out without hanging up.

The Gill Bug has provided many surprising experiences. On Canadohta Lake in August, 1959, this bug produced many good largemouth bass but the bass took the bug much the same quiet way as a big brown trout takes a small dry fly. During the day the dimple rise could be seen but after dark the bass took the bug so quietly that a gradual tightening of the line was the only indication that a fish had taken. This was fishing by feel, not by sight or sound as is the usual case in surface night fishing, and the percentage of hooked rises was surprisingly high.

If you fish for big brown trout at night (where legal), try casting a big Gill Bug across flat water and make it flutter like a big moth as it comes across the current. I once took a big Northern on Michigan's Ausable River late at night while fishing the Gill Bug for browns. This was somewhat of a fluke since pike are not ordinarily supposed to be night feeders, and this particular stretch of the river was not thought to hold this species. On a northern Michigan pond I watched Paul Young take some fine brook trout on this bug after having been told by the natives that only streamers would take these fish.

2. Muddler Minnow

Body: Gold tinsel

Underwing: Mixed black and white hair of calf tail

Wings and tail: Sections of turkey quill

Head and hackle: Body hair of deer, antelope or caribou

The Muddler was invented by Don Gapen as an imitation of the sculpin minnow, to be used for the big brook trout of the Nipigon region of Ontario. Deadly as it is for its intended purpose, the Muddler has proven to be extremely effective for smallmouth bass, fished on or near

the surface. Greased to fish dry, it is a good 'hopper imitation, and fished down and across current in short jerks, it will duck under and bob up, possibly imitating a dragon fly nymph.

Our first introduction to the Muddler was on the Allegheny River about ten years ago, during the "dog days" of late August. The river was very low and the fishermen were complaining about the uncooperative attitude of the smallmouth. The long flat was devoid of any surface activity save some small dimple rises which were thought to be chubs. Fishing a size #10 Muddler to these rises exactly as one would fish a dry fly to rising trout, my

Bass Bugs

wife and I caught and released 22 fine smallmouth in two hours that first evening. As the week wore on the bass would occasionally insist that the Muddler be retrieved in short spurts, creating a small wake in the surface film.

Many similar experiences since that first trial have proved the Muddler a valuable addition to the bass bug-ging kit, particularly for smallmouth. Tied in sizes #6 to #12, it is a delight to use and can be cast easily with light rods.

3. Frog Popper

Body: Shaped cork

Legs: Skunk or Polar bear hair

Hook: Humped shank, fine wire, preferably long shank



GILL BUG



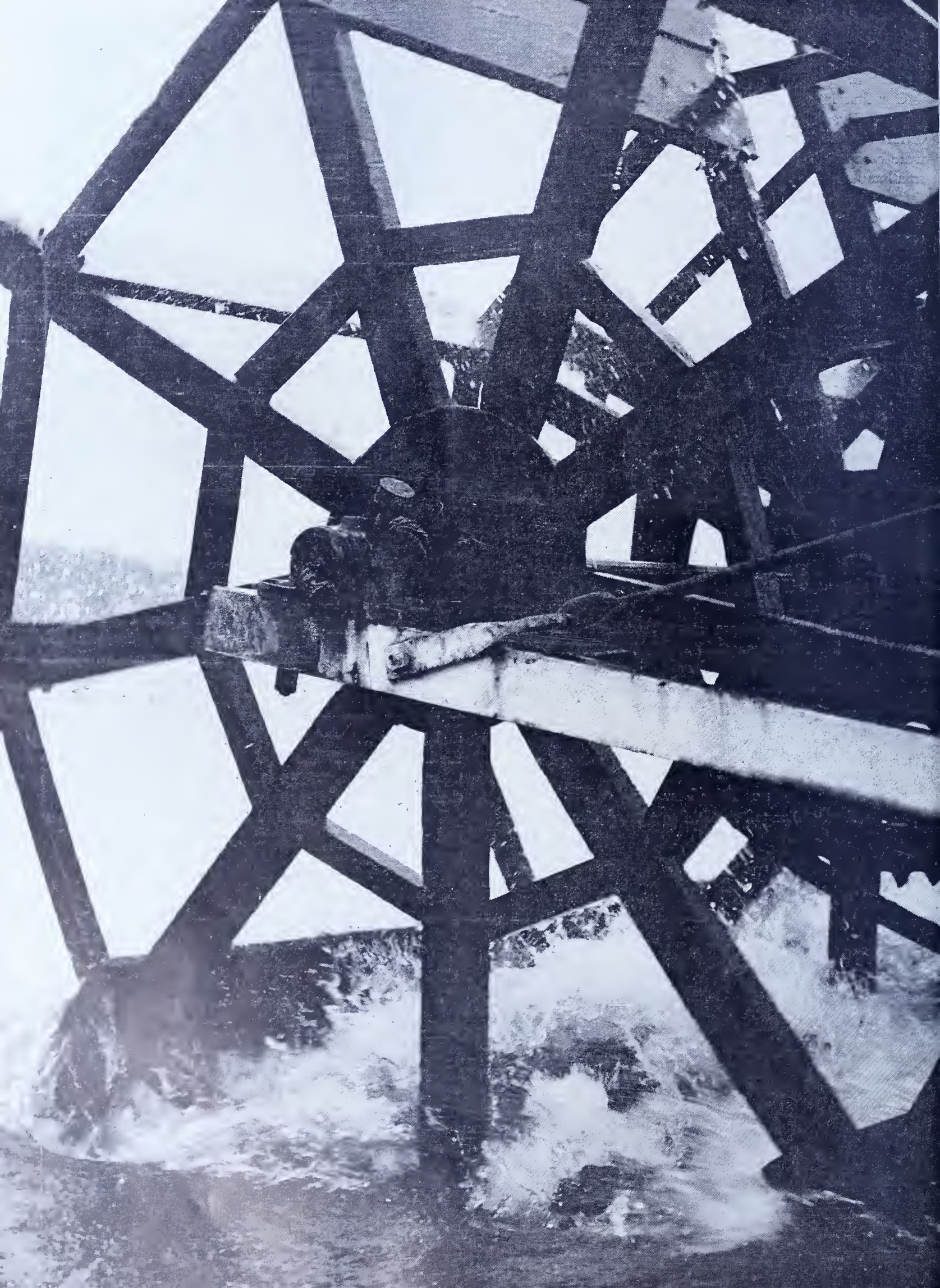
FROG POPPER

Rating high on the list of favorite foods for both large-mouth and smallmouth bass, the frog deserves representation in every bass bugger's collection of lures. The Frog Popper is easily made and can be constructed by anyone—even by those who do not ordinarily make their own bass bugs—and with very little effort. The size I like best is tied on a size #6 long shank, fine wire hook with the body and hair legs positioned on the forward two-thirds of the hook—to guarantee effective hooking.

Stiff hair, such as skunk or dyed Polar bear, is utilized to roughly represent the legs and the hair is separated and spread to approximately right angles to the shank of the hook. The stiff hair legs give a realistic kicking action when the bug is popped and they always spring back to their original position when at rest. Favorite colors are yellow with black and red spots, or black with yellow and red spots.

BUGGIN' THE ALLEGHENY





The Last Ferry Tale

Story and Photos

By **DON SHINER**



■ One warm, hazy afternoon this summer, I climbed aboard a ferry barge at Liverpool, on the Susquehanna River, and let the old craft's paddle wheel push me into the 19th century. With each turn of the paddles, the world of today glided farther into the distance, speeding away across a widening path of foamy bubbles!

The boat was Captain Hunter's "Roaring Bull," a homey, flat bottomed craft that carries tourists, cars and passengers and some freight across the mile wide Susquehanna River to Millersburg. The mist and aerial haze quickly blotted out the shoreline and I reflected on this early mode of travel so popular and so necessary in the 18th and 19th century. In the heyday of the ferry, the river frontage was dotted with them. One, very famous today, came to mind. It was the John Harris Ferry which began operating in 1753 on the lower extremities of this river. The settlement that grew up near this site was known by this name for many years and became the nucleus of the present city of Harrisburg.

There was the Coryell's Ferry of Revolutionary days. General George Washington gathered all available ferry barges at this point and ferried his troops across the Delaware to stage the historic engagement with the British. Coryell's Ferry is now New Hope. Then there was Clark's Ferry, McCall's Ferry, Fisher's Ferry, Dingman's Ferry, Logan's Ferry, Coal Center Ferry and others that flourished in the past. Towns have grown up at the ferry sites just named, many assumed the names of the original ferry boat centers.

The ferry's halcyon days spanned the period when the new Republic exhibited its greatest growth. Many were well established during the crucial Civil War which shook the country's foundation. Many carried homesteading immigrants, fresh from the western and southern parts of Europe, as they flocked toward the unsettled plains. They thrived during the cra of the Mugwump reformers. They were active during the presidential administrations ranging from Lincoln to McKinley. They were in operation during the turbulent times that were ushered in with the light bulb invention by Thomas Edison, the steam engine and first paddle wheel boat by Fulton. In fact, ferries were quick to adopt "Fulton's folly."

The lonely, shrill sound of the boat whistle snapped me into consciousness. I looked up to find the passengers on the Roaring Bull shouting and waving to another ferry, paddle wheeling its way across the river toward the shore we had just left minutes ago. The two boats passed so closely that I could have, by stretching a full arm's length,

shaken hands with the passengers on the other craft. The name, "Falcon" was painted in large black letters on a weathered board tacked on the canopy of the ferry's bridge.

The Susquehanna at this point, a few miles below Liverpool, is nearly a mile wide, placid, shallow and dotted with dozens of tiny islands, all heavily treed, framed with rocky beaches. The day I rode the Roaring Bull, fishermen inhabited the great majority of the tree studded outposts. Canoes, an occasional airboat and skiffs of every description rested at anchor near the island spots. Anglers, donned in boots or bathing trunks, waded and spinned lures for bass and walleyes. The setting appeared ideal for fishing.

Weaving between the fishermen and the islands was a string of floating tin cans. These, I learned later, were bouys marking the route the ferry followed to avoid colliding with rocks and reefs in the shallow river. From the string of cans, my eyes lifted to catch a glimpse of the towering mountain ridge, shrouded in mist, paralleling this mighty Pennsylvania river. The haze covered landscape was weird, but like a strikingly beautiful panorama painted canvas that hung in a museum.

In front of us, on the east side of the river, was Millersburg. This is a quaint village, with long rows of handsome houses facing the water front. Nearly a dozen cars were backed up at the shore, like autos in line at a turnpike toll gate, waiting to ride the ferry back to Liverpool. Reason: the nearest bridge is some 20-odd miles away. This is not far today, but it represented a day's journey, and sometimes a hazardous jaunt fifty years ago when travelers rode an open horse and wagon conveyance.

The trip across consumed fifteen minutes. Time slipped past so quickly I now regretted the end of the trip. Hastily, I paid a return fare and rode the paddle wheel boat back to the Liverpool side of the River again.

The Roaring Bull changed little since its early origin. Now three modern cars replaced the three wagon and team limit it hauled in yesteryear. As the cars rumbled across the wood plank flooring, and filled the barge to its capacity, I watched the crew pole the craft from shore. Slowly turning the homey barge around until the bow pointed in the proper direction, the huge water wheel began spinning to propel us in "flight" again.

I wandered toward the bridge in search of the skillful pilot steering the craft. I found Robert Hunter gripping the wheel and peering through the window, watching intently the series of tin can buoys that marked the route



SKIPPER, Captain Warren Hunter, piloted the Roaring Bull for 50 years, now owns the ferry barges that carry cars, passengers and some feight between Millersburg, Pa. on east shore of Susquehanna to Crow's Landing on the west shore.



TRIP to east side of river takes 15 minutes, to t

across the wide river. He wore an austere expression on his weathered, deeply tanned face.

The ride gave birth to a mind full of questions begging to be answered by him. "How was this ferry operation able to survive this modern era? How was the old water wheel powered? How many cars on a normal day, cross the river on this sole surviving ferry?"

Robert Hunter motioned for his assistant to take the wheel then beckoned me to step into the cabin quarters. There he relaxed on a wooden bench, propped his feet against a stove of Franklin vintage, and poured ice coffee from a vacuum bottle. Over the cooling refreshments, Hunter related the origin of the ferry line now lost in antiquity. He had only been operating the line for four years, since the retirement of his father. But long before that, he rode the Roaring Bull while a young man under the watchful eye of Captain Hunter.

Somewhere around 1905 or '08, the Hunters purchased the line from the McConnells. Before that it was owned and operated by the Silascs, and before that by the Crows. Its probable birth was fixed around 1810 or 1825. And, for reasons best explained by the topography of the land, the ferry site was always used extensively by folks in that region of Pennsylvania.

Week days the ferry operates on a one or two trip-an-hour basis. On weekends and holidays, however, roughly 50 trips are made with each boat from six o'clock in the morning until eight o'clock at night. The trip east requires 15-minutes, with 20-minutes required for the return trip west. Why the difference I asked? Hunter explained it by saying the western trip was somewhat longer, carrying the boat off course to avoid a mid stream collision with the Falcon negotiating the channel at the same time.

Glancing about the red painted walls of the cabin, my



TOURISTS get big kick taking photos of the old Roaring Bull as it ties up to the Crow's Landing or Liverpool side.



minutes. Ferries pass in mid-stream, slows one down.

eyes found a doorway through which I could see the motor, long chain drive and the dripping waterwheel that propelled the boat. Hunter followed my glance, motioned for me to follow him into the engine compartment.

The loud hum of the powerful tractor-type motor prevented conversation. I watched as he oiled several cups leading to the moving chain. I stood fascinated at the sight of the giant, 10-foot tall paddle wheel, dipping into the river and revolving like an endless staircase, churning the river into a frothing mass. From the roofed engine quarters, which had all the architectural design of an early covered bridge, I watched the sister barge slip past the Roaring Bull. Only the presence of modern cars prevented me from again picturing a century old setting.

Probably the only physical difference from the old ferry and this modern counterpart was the lack of a chimney and the customary thick pillar of smoke pouring from the coal burning engine. Hunter explained that the older barges, numbering about twelve since the line was taken over in 1905, were powered with river coal. The black diamond nuggets were dredged from the river at the ferry site during periods of low water. Soft coal was mixed with the river nuggets to give better heat, but it was "smokey." The boat always left a long black trail across the river, much as jets leave vapor trails in the heavens today.

Back on the bridge again, I mingled with the other passengers and watched the Liverpool shoreline creep closer. I could see half a hundred or more people swimming near the landing, with an equal number of bathers relaxing on shore. Long lines of cars were parked on shoreline. Doubtlessly some were waiting passage to Millersburg; others had come to view the picturesque paddle wheel boat on this summer afternoon.

Soon after I stepped ashore, I found elderly Captain



BOAT LOADED, crew poles ferry from shore, turns it around until bow points to Millersburg. Craft operates from 6 a.m. until dusk, rates are reasonable.



PILOT, Robert Hunter, now steers the Roaring Bull, one of the two making a daily schedule until bad weather sets in and ice comes to the river. Regular passengers miss the old Blue Goose, now passe.



ANGLERS, SWIMMERS and boaters rub elbows with the ferry boat. This is the last remaining ferry on the Susquehanna.

Hunter sitting contentedly on an old fashioned chair swing, chains squeaking the rhythm of the slow gliding motion. I asked the graying Captain what life was like when the ferry was in its prime, for to most of us, memories are secondhand, tales told and retold by our elders. But Hunter, now 84, and the proud Captain of the Roaring Bull for over 50-years, could vividly recall much of the vanished era.

Reminiscing on the bench that overlooked the ferry route, he conjured a picture of horse drawn buggies, cattle drives and early events surrounding the Liverpool Ferry. His eyes gleamed in remembrance.

"For over 50-years I piloted the Roaring Bull. In that time I never experienced an accident. Never lost a passenger, a wagon or as much as a bag of wheat to the river.

"Depending on the spring flood conditions, I normally opened operations the beginning of March and closed down in November when ice began to form. Still keep this schedule today.

"Low water was always our biggest problem. See that breakwater line running from here to yonder shore? We pile those rocks anew every spring to dam the water to a sufficient height for our two boats to operate. At its deepest, the river is barely four to five feet deep. Many places it is far shallower than that. Years ago, we'd go out on the grass beds, after the wall was rebuilt, cut the vegetation and scatter this "hay" along the breakwater. This, plus gravel and clay, would plug the holes, backing up enough river to boat safely. Whenever water ebbed low, preventing our paddle wheels from operating, two men would hand pole the ferry across. It was work. But the sunshine, and fresh air made this ferry business a good life. Now of course, the breakwater is easier to rebuild each year because we use a bulldozer for this difficult work."

"Many fishermen," Captain Warren Hunter continued, "rode my boats over the years. Some usually got off at different islands, claiming they had secret fishing spots there. I believe some did. They frequently displayed

awfully nice strings of bass and walleyes on their return trip to shore. And I always considered it a bit strange the Millersburg fishermen always thought more highly of this side of the river, while the Liverpool anglers preferred the Millersburg side. Personally, even after 50-years of boating, I could never observe any difference aside from the fishermen themselves!

"Fog always gave us trouble. We use a compass, lights and a horn to signal our whereabouts in mid stream. I remember one occasion the fog was real thick during an early morning. A drive of horses was waiting to be taken across. I stoked the engine boiler with heavy coal and we shoved off for Millersburg. I blew the steam engine's whistle to announce that we were getting up steam. The shrill sound frightened the animals. For a moment I thought they would panic. It took all we could do to keep them from jumping overboard. But shortly we were able to quiet them. Ferry operators never lack for excitement.

"Never had a boat that lasted more than six or seven years. We always built the crafts ourselves, patterning the new ferry over the older models, with a few minor improvements. The craft you rode today is much the same as the first one I piloted back in 1905 or '06."

Captain Hunter grew silent and watched the Roaring Bull coming to land passengers and cars. I caught sight of two fishermen angling in the rapids below the breakwater. One had set the hook into a nice fish and his rod bent beautifully. Several minutes later he lifted a husky fish in his landing net. The distance was too great to see exactly what it was.

There is still adventure on this giant waterway. Boating, fishing, swimming, rock collecting, camping or you name the outing, the river is a mecca for waterminded sportsmen's activities. Riding the last old fashioned ferry is pure nostalgia!

True, Hunter's Ferry is the only paddle wheel boat in operation throughout the 400 mile stretch of Susquehanna. And these crafts are now almost a legend. Tomorrow's generations will never see the ferry traffic that once strained across the rivers of this state, but they may still be able to ride Hunter's old paddle wheel barges to Millersburg where time has not yet run out!

THREE CARS and several dozen passengers are top cargo. Here the Falcon beaches to allow cars off the deck. A powerful tractor-type engine drives the craft that once used river coal to get up steam.



PANEL . . . “is the Fly Fisherman on the Way Out?”



. . . . an open forum of expression and opinion by veteran anglers, writers and sportsmen. These opinions may or may not reflect the opinion of the editor or publisher of the *Pennsylvania Angler*.

. . . . readers who wish to air their views can do so by writing to the panel guests in care of the editor.

N. R. CASILLO, Fisherman, Outdoor Writer

■ In my circle of fly fishing friends and cronies none have really given up that sterling sport for the spin-fishing craze. To be sure, some of them have taken up the coffee grinder and hybrid rod, but none, absolutely none, have let it supplant fly casting. Very few fly casters indeed, and I mean real devotees of what is conceded to be a real angling art, have wholly converted to what is considered a comparatively recent import. Admittedly, there are many champions of spinning, but they are mostly anglers lukewarm to fly fishing and who would just as soon as not hang a worm or other bait from the terminal tackle of their fly rig if it will but bring home the bacon.

Five years ago while fishing in the Yellowstone I saw hordes of converts to the spinning rod. Most of them were run-of-the-mine anglers who were taken by the ease with which the spin fishermen got their lures out to where the cutthroats were lurking, practically in the middle of the not so inconsiderable Yellowstone River. However, there were almost as many who reverted to surf and plug casting tackle. The idea was to get out as far as possible. I'm sure that some of them would have gladly resorted to a whale harpoon gun to accomplish their purpose. Yet, mark this. The fly rod users were more than holding their own. That the spinning craze is taking a downward trend may be attested by the number of fly fishermen crowding the Yellowstone early this summer.

A chap from a neighboring Pennsylvania town whom I chanced to meet on the Yellowstone many years ago, and where we still encounter each other from time to time, finally broke out with a fly outfit. He had arrived at our rendezvous a couple of days before I did and surprised me with his new gear.

"Like it?" I asked.

"Sure do," and quickly added, "I may not be able to get out as far as some of those guys using everything but howitzers, but I discovered how to overcome that," he grinned.

"How?" I came back.

"Easy," his grin broadened. "Use a boat."

However, to get back to our own Pennsylvania streams such as the Caldwell or the First Fork or the Loyalsock. Can you imagine using anything but a fly rod on these typical trout streams? Here in Lawrence County one or two service clubs annually conduct a fishing rodeo for the kids. It is my contention that one day of the rodeo should be devoted to youngsters using fly rods and artificial flies, the latter tied by themselves. This in some measure might make up for the lack of reading done on the subject.

Nowadays, beginning fishermen are not exposed to the fishing literature which was so popular with boys of a generation ago. There were such immortals among others as Henry Van Dyke, E. C. Prime, Dean Sage and Louis Rhead. We not only had the time to read them, but avidly did so. These may be fast moving times, but we periodically pause in our dizzy whirl to collect our wits and recharge our batteries by indulging in a fishing excursion or two. If we need the "contemplative man's" pastime to unwind, one should go all-out and take up the art of fly tying as well as learn some of the more simple phenomena of nature. There is no need to plunge into the scientific nomenclature of aquatic and streamside insects and their various environments or to know the difference between modern dressless lines and those still requiring deerfat. But, it is an understanding of all its elements which makes fly fishing the sport that it is.

On my several meetings with Seth Gordon, former Executive Director of the Pennsylvania Game Commission, whenever we talked of grouse shooting, he would invariably extoll it highly and compare it to the pinnacle of its angling counterpart, dry fly fishing. But, I'm inclined to go a step further. It is my contention that fishing with the dry fly is the very highest achievement of all outdoor sports involving rod and gun. When was the last time you fly fished?



By **CHARLES K. FOX, Editor, Outdoor Writer**

■ There are good reasons why it is not advisable to tell a man how he should fish. This interjects thunder into the air, the unnatural kind. Then there is the realization that it would not be conducive to the best of sport if everyone desired to fish the same way for the same species at similar places and times. It is to the good there is variation in thinking, variation in interest, variation in approach and variation in the ingredients which make for personal satisfaction in the mind of the individual fisherman.

A positive answer to the panel question: "Is the fly fisherman on the way out?" is a definite NO. Show me a man who loves the fly rod and I'll show you a person who cherishes warm-weather low-water angling; one who is interested in aquatic and terrestrial insect life and their relationship to the feeding activity of game fish; one who appreciates skill, finesse and refinement; and one who relishes the challenge of problem fishing. There will always be those who are interested in the science of angling; therefore, there will always be fly fishing. There will always be those who enjoy wading; therefore, there will always be fly casting.

Today there are more men and women highly skilled along this line than there ever were before. Undoubtedly one reason is because there are more people. But there is another reason. Under pressure fish become increasingly shy; therefore, successful angling requires refinement. Refined angling encompasses fine leaders, good presentation and the best of deceiver and attractor flies, the tying of which to many is a part of the pastime. Fly casting is an interesting target game, a game of inches.

The Pennsylvania Fish Commission has determined by survey that 10% of the fishermen catch about 65% of the fish which are taken. If it were possible to pursue this further, most certainly the fly fishermen would appear by comparison a highly efficient operator. The making of a conservationist is the realization that one has the power to destroy the thing he loves most. Among the ranks of the fly fishermen are many eminent conservationists.

A speculative cast into the future seems in order. Competition and normal progress will bring about the advancement of tackle and methods; so it can be expected that our children will be better fly fishermen than we. Additional trout water—cold clear water—will be created below deep taps from new impoundments. As the water problem intensifies there will be more reclamation and less ex-

ploitation. The economic and recreational value of fishing will be more generally recognized and more vigorously championed. Ultimately, the basic element for existence, clean water, will become the sacred cow of the land.

Fly fishermen, a proud race and a sophisticated lot, will manifest increased interest in tradition, history and established technique. The written record of fly fishing, the finest of any sport, will be appreciated more and more as time goes by. The present strong trend of the fly-rod man to seek kindred spirits will intensify. Other organizations such as The Fly Fisher's Club of Harrisburg, The Fly Fisher's Club of Pittsburgh, The Fly Fisher's Club of New York (Pennsylvania fishermen) will come into existence.

The question is not; "Is the fly fisherman on his way out?" Neither is it; "Will there be surface-feeding game fish?" The only question seems to be; "Will the wading fisherman cast his flies on many streams or will he be limited to club waters, special invitation or ownership of his own stream section?" Actually the answer to that is more a matter for the present than the future. The pertinent question therefore is; "Is the old American tradition of free and open trout fishing on its way out?" And that query is debatable!

ALVIN R. GROVE, JR., Author, Veteran Angler

■ Is the fly fisherman on the way out?

This is a sneaky question to ask a fly fisherman. And when it was first thrown at us, our immediate reaction was to answer, "Of course not!"

Second thoughts, however, were more sobering and although we did not change our first answer, we were cautious enough at least to begin to ask fishermen what they thought.

To get honest answers, we broke the question down into several parts, asking such things as: "Do you think there are as many young fly fishermen as in the past? Do you think the time may come, perhaps 30 or 40 years from now, when there will be a fly fisherman or two in a neighborhood, as was the case some years ago?"

Well, of course, if you ask a question, you can expect many answers and this is about what we got. One person, who teaches fly tying and fishing at a summer camp, indicated that he had as many students now as five years ago. On further questioning, however, it was soon revealed that he had a captured audience. Forty boys at camp made a class. They did this past summer and, so far as we could tell, they will next summer.

A dealer in fly-tying equipment cautiously suggested that the sale of such materials is not as great now as it was a few years ago. And unless every tyer is skinning out his own chicken necks and collecting dubbing from the family sewing basket, there must be fewer flies tied.

We talked with fly fishermen who are sixty and we talked to others who are twenty. We talked with Pennsylvania fly fishermen and some who have lived most of their lives in such other places as Michigan, Wisconsin, Minnesota, and points west. We asked fishermen who fish near home and others who travel far and wide. We asked the questions of some who fish the small streams where they were born and raised and of others who fish mostly on fish-for-fun streams.

And what did we learn?

In Pennsylvania, there may be a decrease in the number of fly fishermen fishing for trout on public waters. However, the number of fly fishermen fishing for trout on private waters, including fee-fishing ponds, is increasing. Moreover, there seems to be little doubt in the minds of most of our fellow fishermen that more anglers are using flies to fish for other fish, such as the common sunfish, black bass, crappie, and bluegill.

As one person put it, "There has been an increase in the number of fly fishermen ever since Izaak Walton!"

Others suggested that the pleasure of fly fishing is too great to suspect a decline in the numbers of anglers enjoying it. The ease of fishing, together with the escape from the necessity of carrying bait will, in itself, always appeal to a large number of anglers who prefer the fly or bass bug.

We were particularly impressed by the number of persons questioned who felt that they were seeing more young anglers on the fish-for-fun streams in Clinton County. But, at the same time, they reluctantly agreed that the number of younger anglers on most of the open water of the State seemed to be decreasing, including, of course, the fly fisherman.

One angler who answered our question felt that although there may be fewer fly fishermen in Pennsylvania, this certainly is not true in states to the west of us. Another angler was especially surprised by the numbers of fly fishermen in Wyoming and several other Rocky Mountain states. He was quite impressed to receive, with his license, information circulars that pointed out the pleasure of fly fishing, as well as its value in fish management.

We asked some fishermen whether they felt the farm pond was contributing to the increase in numbers of anglers, both young and old, who might be turning to fly fishing as the method of taking fish. Without exception, the answer was, "Yes!"

One person interviewed suggested that the farm pond is made for the fly fisherman.

Two young anglers, in their early twenties, thinking back at least several years, concluded that there were more fly fishermen in their age group at that time than they see now. One teenager fly fisherman actually had contacted men in their fifties to go fly fishing with him because he couldn't find young fishing companions who enjoyed the sport.

One angler—about twenty salty years, we suspect—suggested that young anglers are interested in catching fish (we might add that many older anglers also are interested in the same thing) and that once they satisfy this initial desire to catch fish, they will discover the method of catching (fly fishing) provides more pleasure than other methods.

We are not certain of the answer and doubt whether anyone really could be. But the majority of anglers seemed to conclude that, in Pennsylvania at least, there is a decrease in the number of young fly fishermen fishing for trout and this may be because there is less opportunity now than in the past.

Most agreed that the total number of fly fishermen has not decreased but that the equalizing factor has been an increase in the use of the fly to take warm-water fish.

All who were acquainted with a fish-for-fun stream agreed that they saw more young anglers there than on open water (with no restrictions) and that more fly fishing was being done on private water today than at anytime in the past.

It is an interesting question. We suspect that if we were to ask another 50 fishermen, we might get another 50 answers. But someone said, "Let well enough alone!" We agree.

ALBERT G. SHIMMEL, Outdoor Writer, Veteran Angler

■ Fly fishing is a sport that requires a minimum of disturbance for maximum results. In this day of congested populations with rugged vehicles for transportation, remote areas are as accessible as the nearest supermarket. In fact the wilderness areas are sometimes subject to more fishing pressure than the streams that skirt urban areas.

A friend, one of the most skillful fly fisherman it has ever been my privilege to watch, recently discarded his fly tackle in favor of a spinning outfit. His arguments are backed by catches of large fish. He claims that he takes more and larger trout than he ever took with feathers; that the trout of our plant and take program seldom survive long enough to rise well to a fly; that he can fish for any species with his spinning tackle and thus become more skillful with his one outfit than he was when using two. He says that most big trout fall for live bait and by giving them what they want he has more sport. To him fly fishing is a waste of time.

There is a premise in the minds of most individuals they must obtain results in a hurry. In angling this means the capture of fish. Fly fishing requires a certain amount of practice and certain time of apprenticeship in order to become proficient. It requires years to become an expert in all the arts associated with the fairy wand and the delicate lures of feathers, hair and tinsel. Few individuals in this busy world have neither time nor inclination to become expert enough to practice this art with pleasure.

There will always be a few hard bitten individuals that will seek the solitude of the shaded pools at evening and be content with a rise or two to bring memories of the contemplative sport of former years. When the snow comes they will dream up new creations of fur and feathers in attempt to recapture the unspoiled trout of yesteryear. Is the fly fisherman on the way out? No!





SAILING SHIPS like Mayflower explored and populated most of the world yet vessels like this are not much larger than today's small harbor craft. Yet, hardy sailors brought this replica of the Mayflower, called Mayflower II, all the way from England recently for exhibition in the U.S. Pix shows it passing the Statue of Liberty in New York harbor.

the Romance of Boats

—from U. S. Rubber

■ Even before Noah and his sons assembled the ark and its animal passenger list, boat building had become one of man's great areas of ingenious achievement.

Sitting like a bump on a log that floated slowly down a river probably was one of the caveman's very first adventures. Stone Age sailors soon converted logs into rafts . . . canoes . . . dugouts. A pine dugout 9,000 years old has been found in Scotland!

No drifters were the Egyptians, who paddled down the Nile 5,000 years ago in canoes made from bundles of papyrus, or parchment. Lacking nails, they held their wooden boats together with wooden pegs.

Perhaps the oddest known boat was invented about 1700 B.C. Called the *kelek*, it consisted of a wooden raft buoyed by a float of inflated animal skins—as many as 1,000 sheep and goat pelts. *Keleks* are still used in Armenia and Iraq today.

Once man had mastered river travel, the rest was easy. "They that go down to the sea in ships, that do business in great waters" were mentioned in the Bible (Psalms 107:23)—and ships for warfare and commerce have been known since the dawn of history.

Helen of Troy was the owner of "the face that launched a thousand ships" in the Trojan War that occurred 12 centuries before Christ's birth.

The Norse Vikings were the terror of the seas some 960 years ago in sturdy ships propelled by both oars and sails. Norseman Lief Ericsson sailed to America in 1000 A.D.—just 492 years before Columbus made the

trip! Ericsson's ship was small, judging by Norse ships we've found. It must have been about 80 feet long, 16.5 feet wide, and seven feet deep.

Columbus' trio of ships were models of seaworthiness in their day—but so small that if set down on the decks of the *Queen Mary*, they would still leave room to drill a regiment of infantry. His flagship, *Santa Maria*, was only 128 feet long, or about as big as a fair-sized modern yacht!

Few things in history are more remarkable than the feats of early voyagers. Ships that lacked steel plating and engines carried Spanish conquerors to South America and established Spain as the world's greatest nation. The same kind of ships defeated the Spanish Armada in 1588 and established tiny England as a mighty naval power.

America's famous Clipper ships set their sails for far-off places and went on trading voyages to the Orient and the South Seas. But these handsome sail-riggers were scuttled by the invention of the steamboat in 1807, and the wooden vessel began to be replaced by the iron ship.

England thought she had the last word in 1859, with her 19,000-ton liner the *Great Eastern*. This vessel, her rudder disabled, once rolled so violently in a gale that she pitched a cow through a skylight into the grand salon crowded with passengers!

Some centuries later Leif Ericsson, another Ericsson but no relation—John—made naval history by building the famous ironclad *Monitor*, which battled the Confederate *Virginia* (formerly U.S.S. *Merrimac*) in the War Between the States.

Here's a fact few sailors or landlubbers ever reflect on: although today's mighty liners like the two English "*Queens*" and the S.S. *United States* are marvels of steam-turbine propulsion, their basic construction is simply a variation on man's earliest vessels!

But there *are* a few brand new ideas afloat. One of these is the notion that the average citizen can afford pleasure-boating. Over the centuries, the great masses of mankind either sailed the rivers and seas for a living, or stuck to the land. Today, there are an estimated 40 million motor-boating enthusiasts in this country—and the number grows every fair-weather day.

Whether or not the debut of virtually unsinkable boats will remove ancient sea superstitions is something that remains to be seen. Salt must not be mentioned at sea by Scottish fishermen, and some nautical circles still consider it bad luck to start eating a fish at the tail! Cornish fishermen shy away from the word "goat," for the Devil in legend often took the form of that animal.

Even the time-honored ceremony of breaking a bottle of champagne across the bow of a boat has roots in superstition. It dates from the days when sailors went out of their way to appease the sea. Greek and Roman fishermen would leave a portion of their catch on the beach as a peace offering, and Indo-Chinese fishermen once sacrificed a man yearly to the sea god as the price of their fleet's safe return.

Ancient ships displayed human skulls and animal heads on their prows to prove to the sea deity that a sacrifice had been made—and this was the ancestry of the beautifully carved figureheads on 18th and 19th Century ships!

Which may make you think twice the next time you're tempted to say, "Well, we're all in the same boat!"

what — A critter?

By JACK G. MILLER

Fishery Biologist
Pennsylvania Fish Commission



PADDLE-PUSS, a primitive member of the finny tribe that should have been dead thousands of years ago. These paddlefish were caught in 1898 in the Allegheny river at Trunkysville, Forest county by W. C. Warner (deceased) Titusville, Pa.

Did you ever see a fish that could paddle its own canoe, or at least had the paddle if it could get hold of the canoe? Such a creature existed in Lake Erie and the tributaries of the Ohio River located in western Pennsylvania as recently as 50 or 60 years ago. It is still found in many of the rivers of our southern and mid-western states. This creature is known as the paddlefish, or if you want to get technical about it, *Polyodon spathula*. This boy has a nose that would put Durante to shame, even if it does look like a steam roller ran over it. A large "paddle-puss," say about six feet long, goes around preceded by a canoe paddle blade which may be 18 inches long and 5 or 6 inches wide, and that is a lot of proboscis to be sticking out in front of you when you spend most of your time swimming around in muddy, silt laden rivers.

Actually the paddlefish is a primitive member of the finny tribe that for some reason forgot to die off a few thousand years ago when most of its relatives cashed in their chips.

It is very seldom caught on hook and line because of its feeding habits, most of their food consisting of very

small plants and animals which they strain out of the water. They are of commercial value where they still exist, their flesh brings a very good price and their roe is often mixed with that of sturgeons to make caviar. Nets of different types are the means by which most of them are taken.

Just what are the facts about this strange fish? The following gives a brief outline of what is known about old "paddle-puss."

PADDLEFISH

(*Polyodon spathula*)

Description: The paddlefish is a primitive fish easily identified by the long, paddle-shaped snout. The body is scaleless except on the upper half of the tail fin. The mouth is located on the bottom surface of the head and closely resembles that of a shark. The body is slate-gray to gray-blue above and lighter on the under surface. The skeleton is largely composed of cartilage, with very little true bone.

Pennsylvania Distribution: During the last century this unusual fish was to be found in the larger streams of the Ohio River drainage and in Lake Erie. The Lake Erie population apparently became extinct about the beginning of this century, and the building of dams on the Ohio about 1915 started the decline in this drainage basin, until it is doubtful if there are any remaining paddlefish living in Pennsylvania waters. Their present range includes most of the larger southern and mid-western rivers. They are common in many of the TVA waters and are to be found in the Mississippi and Missouri Rivers and some of their tributaries.

Food Habits: Very little is known about the food of the young paddlefish, mainly because few of them have been taken. The larger fish feed mainly on small plant and animal life which they very effectively sift out of the water by means of a rather elaborate system of sieve-like gill rakers. Items in their diet include water fleas, copepods, small aquatic insects and such incidentals as may be sifted out of the water with these items.

Habitat: The paddlefish is a resident of the backwaters, ox-bows and other sluggish pools of large silt laden rivers, where the gradient is very low. They are thought to be highly migratory, but prefer to move about during low water when there is little current. For this reason even very low dams which other fish will surmount are effective barriers to their movements.

Life History: The breeding habits of this fish remain comparatively unknown. Some believe that they spawn on sand bars in the shallow backwaters, while others believe that they deposit their eggs in the deep channels of the river. Most authorities believe that they are very slow growing; however, a specimen kept in a pond in Nebraska grew nearly a foot a year. In the areas where they still occur weights of 50 or 60 pounds are not unusual and specimens weighing as much as 200 pounds have been taken.

•
*Bed is too small to rest my tiredness,
I'll take a hill for a pillow, soft with trees.
Now draw the clouds up tight beneath my chin.
God, blow out the moon, please.*

—Elizabeth Coatsworth



MEN AND THEIR NEW CRAFT, l-r: Stanley Paulacovich, Tony Discavage, Frank Kulikosky, Joe Dick, Art Walker, Jim Banning, Claude Baughman, Sam Henderson and Minter Jones all Commission personnel.



BARBARA JEAN SMITH, daughter of Fish Commission member R. Stanley Smith christens new Fish Commission Patrol boat. Miss Barbara wields the bottle while her father handles the umbrella. A downpour failed to dampen smiles of those watching.



PITTSBURGH MAYOR's wife, Mrs. Alice Barr bids good luck to new Fish Commission patrol boat. Behind her is son Joseph who also clapped a bottle on one of the craft.

IN OVER THE WATERLINE, the trim new patrol boats line up for their portrait. The speedy craft will operate in the Pittsburgh vicinity in an effort to encourage water safety, good sportsmanship.



Fish Commission Christens Three New Patrol Craft at Pittsburgh

Executive Director Albert M. Day is speaker

Three new speedy, sleek patrol boats named: Monongahela, Ohio and Allegheny, were christened August 21 at The Point, Pittsburgh, Pa. The fete was celebrated in conjunction with a gala water thrill show sponsored by KDKA-TV. A steady downpour failed to dampen the enthusiasm of spectators lining the waterfront from every vantage of view, piers, bridges, banks, boxes, barrels and boats.

The three new trim craft pulled to pier for christening in turn by Pittsburgh Mayor's son Joseph Barr, his wife, Mrs. Alice Barr and Miss Barbara Jean Smith, daughter of Fish Commission member, R. Stanley Smith.

Attending the ceremonies were: Albert M. Day, Executive Director, Pennsylvania Fish Commission; Fish Commission members Joseph M. Crtichfield and R. Stanley Smith; all wardens for Southwest District, Fish Commission with Supervisor Minter C. Jones and Safety Director Harry Brainerd, U.S. Coast Guard Auxiliary.

During the ceremonies Warden Sam Henderson reported one of the spectators, an unidentified 8-year old boy fell from his perch into the river. Robert Lacher, fishing nearby, dove in, pulled him out. The boy, frightened and soaked ran home.

•

LITTERBUGS AT CHAMBERSBURG DAM FINED

State Fish Warden Bryce Carnell received \$10 field fines each from 12 persons found guilty of littering the Chambersburg impounding dam above Caledonia. Four of the group were from out of state. Those arrested were charged with leaving beer cans, bottles, paper and even garbage in and around the reservoir.

Editorial in a Chambersburg paper had this to say, "the borough government received commendably prompt cooperation of the Pennsylvania Fish Commission in abating the incipient nuisance of litter on the banks of the impounding reservoir above Caledonia: It is no secret the State fish authorities entered upon the investigation with reservations, suspecting that conditions were not as bad as reported. Actually, they found them much worse than they had anticipated. The arrest and fining of twelve persons for carelessly disposing of an assortment of litter and the publicity given the arrests should make the work of the enforcement officers easier."

•

Let's be thankful! . . . not all the waters of the world are like those of the Dead Sea which are so saturated with chloride and bromide of magnesia no animal life can exist in them.

•

It isn't ignorance that spoils our outdoor America, but knowing things that just ain't so!

OCTOBER—1960

THE RED SCUM MYSTERY

By DAN HEYL

Regional Fishery Manager
Pennsylvania Fish Commission

☉ A real mystery to many farm-pond owners has been the appearance of a bright red scum on the surface of their ponds. The plot thickens as this red scum later turns green. What causes this mysterious yet rather beautiful phenomenon?

Euglena is the culprit. In this day of beatniks and other non-conformists the *Euglena* seems to belong to the times. For the *Euglena* is a microscopic non-conformist which is claimed by some botanists as a plant and by some zoologists as an animal.

Too small to be seen by the naked eye, the *Euglena* is most commonly found in ponds rich in organic matter and with fairly high water temperatures. When it occurs by the billions a red or green scum may be seen. The *Euglena* contains both red particles (called hematochromes) and green particles (called chloroplasts). The red particles, which move within the *Euglena*, can either be concentrated in the center of the *Euglena* or spread more or less evenly throughout the body. The green particles, however, are stationary and are arranged toward the outside of the *Euglena*. If the red particles are concentrated in the center, then only the green color is seen because the red color is hidden by green particles. However, when the red particles are scattered through the body, the *Euglena* appears red. The dispersion of the granules occurs in response to very bright light and warm temperatures. So, in the middle of the day when the sun is bright you may see the red scum, but as evening approaches and the light is lessened, the green scum appears.

Thus the mystery of the red scum is solved—yet the beauty of this wonder of nature is not diminished.

•

Thousands view Fish Commission Exhibit at Harford Fair and Susquehanna Sportsmen's Field Day

The live fish tank exhibit of the Pennsylvania Fish Commission was one of the main centers of interest at the Harford Fair held in mid-August. The display was also popular at the Susquehanna County Federation of Sportsmen's Club Field Day held August 27-28. Live fish for the tanks were furnished by Pleasant Mount state fish hatchery. Posters, maps and other literature published by the Commission were offered the public while local wardens were present to answer questions. The booth placed by the Fish Commission was sponsored by the Soil Conservation District of Susquehanna County.

•

Our creator would never have made such lovely days, and have given us the deep hearts to enjoy them, above and beyond all thought, unless we were meant to be immortal. —Hawthorne

•

It is only through the morning gate of beauty that you can penetrate into the realm of knowledge. That which we feel here as beauty we shall one day know as truth. —Schiller



Photo by State Soil Conservation Commission

CLEAN WATER BEGINS ON THE LAND

Dick Long, warden for the Pennsylvania Fish Commission, is quick to point out that conservation farming is an important step towards good fishing. He says it's just common sense that the more soil the farmer keeps at home, the less dirt the fish have to eat.

As a member of the Mifflin County Soil Conservation District team, Dick and wardens like him all over the state, believe in working hard to sell conservation. Whenever the district plans a tour to show farmers that contour strips and diversion terraces save soil (and profits), Dick is on hand to show how this benefits downstream residents, including the fish.

Above, Dick helps plan a conservation tour for Mifflin County ministers during Soil Stewardship Week. Shown sitting are Gerald Bullock, district chairman, and Grant Pecht and Clyde Krepps, directors.

Standing are Kent Kresge, vo-ag teacher, Reed Goss, another director, and Tom Newkirk, Soil Conservation Service.

THE ONE THAT GOT AWAY

The *Pennsylvania Angler* wants stories of THE ONE THAT GOT AWAY from readers; 200 words or less. In your own words tell when, where, how and why the BIG ONE GOT AWAY and give an estimate of how big you thought he was. If possible send a small snapshot of yourself for publication along with your story in the *Angler*. Send all stories to Editor, Pennsylvania Fish Commission, Harrisburg, Pennsylvania.

Here's one to start 'er off . . . H. L. Porter tells this one . . . "I was fishing for muskies with Bob Walters of Youngsville, Pa., on the Allegheny below Irving, Pa. I hadn't even wet a line, was still rigging up when Bob got this heavy swipe. After more than an hour of see-saw combat, the fish seemed to weaken and we still assumed it was a musky. After one hour and a half I was ready to gaff the fish but never got a chance to use it. The fish thrashed into the shallows and then was gone. But before it took off I got a good look at it. This monster was a brown trout that would easily stretch the length of a yardstick and weigh around 20 pounds. I got a good look at him, before he tore loose. He had the large spots and prominent underslung jaw of a brown and believe me, he was the biggest I've ever seen . . . but . . . he got away!"

—May the roads rise with you, and the winds be always at your back, and may the good Lord hold you in the hollow of his hand. . . .



—Warren Times—photo McCarthy

NICE CHECK of \$100 goes to Larry Lawton, 17, from the Warren Field and Stream Club to assist in his first year of forestry school. Club secretary Homer Bowersox turns over check to the 1960 Warren High graduate who will enter Paul Smith College in upper New York this fall to major in forestry.



LUNKER CATFISH subdued by Albert Dobransky of McKeesport, Pa., fishing the Youghiogheny River recently. The blue cat weighed 8-¾ pounds and measured 26½ inches.

INDIAN SUMMER

From gold to gray
Our mild sweet day
Of Indian summer fades too soon;
But tenderly
Above the sea
Hangs, white and calm, the hunter's moon.

—Whittier

October Tip

Should your trolling line get twisted, take off the sinker, swivels, leader and bait, and troll the line through the water to untwist.



FISHING "THE POINT"

... Warden Sam Henderson checks catch of catfish, bass and carp of John Gezovitch and Robert Lacher. The latter angler jumped in river, saved an unidentified 8-year old boy who fell from his perch while viewing the patrol boat christening rites at Pittsburgh on Aug. 21.

FORESTS AND WATERS, FISH COMMISSION TO IMPROVE, RECLAIM RACCOON CREEK PARK WATERS

Secretary of Forests and Waters Maurice K. Goddard said the state will undertake an extensive rehabilitation program next year at Raccoon Creek State Park in Beaver County.

He stated that improvements to the beaches and access roads are "badly needed" and that a fish re-stocking program for the Park's two lakes and the upstream watershed has been scheduled by the Pennsylvania Fish Commission. He added that both the fish program and the beach improvements will be carried out simultaneously in the Fall of 1961 since the water level must be lowered for both programs.

He explained that the General State Authority has already entered into an agreement with the Green Engineering Company, of Sewickly, for the necessary planning in connection with the beach and road work.

Provisions for a new parking area will also be studied. The GSA has allocated \$200,000 for actual construction work once planning is completed.

The Pennsylvania Fish Commission will carry out chemical reclamation by eliminating the present over-population of pan and forage fish and restocking with more desirable game species, following a scheme proposed by the Consolidated Sportsmen of Beaver County.

Goddard explained that the Fish Commission's work had been planned for this Fall. "However, it became apparent that the beach rehabilitation could not begin until the Fall of 1961. Since both jobs require that we draw down the lake level, we have decided to hold off the fish program and do it at the same time," he said.

A guy on a fishing and camping trip upstate had a harrowing experience. He had killed a rattlesnake outside his tent before supper, and just before going off to sleep, decided the rattles would make a nice memento. Helped by the faint light from his tent lantern, with a barefoot to hold the snake, a quick slash with a razorblade, and he had his prize. The sight that greeted him first thing next morning made his hair stand on end. The snake he had killed still had its rattles!

HINDSIGHT

When I got back to this redacting business I had great things planned for the PENNSYLVANIA ANGLER . . . by George, I'd get this old rag perkin' like the *New Yorker* or my name ain't Jake . . . it isn't and my name ain't Jake! . . . it's "Klunkhead;" . . . first issue out (July) I see on page 1 (no folio . . . [this means no page number appears]) a guy by the name of John Taylor did the cover sketch . . . who's he? . . . sure, some gent by the name of John TAYLOR sent me the sketch. . . . Bud Taylor is the hustling editor of *Maryland Conservation* . . . me, I see no "L" . . . there is no "L" and I wanted an "L" (subsequently, I got it) . . . cheeze . . . then, gentle readers, I goof off on page 17, same issue . . . in that article on the \$25,000 worth of fish . . . look at paragraphs 4 and 5 . . . where'd these orphans come from? . . . in the August issue I wanted a pix of a covered bridge on the inside cover so I find one on the holdover . . . the holdover is a bunch of rough sheets on which a reproduction of the illustrations you have in the morgue may be used from time to time . . . well, the stuff doesn't usually look too clear . . . this print was a honey of a covered bridge . . . meanwhile, back at the Dog House . . . the original copy gets lost in the mail for a week . . . I say, "Shucks!" . . . I get the final proofs back on glossy paper and there's the most beautiful snowfall on the ground of the covered bridge shot . . . snow in August? . . . I say . . . "Oh, Fudge!" . . . hustle in a substitute beat the issue to the printer. . . . Pennsy goes on strike, mags sit on RR platform a week. . . . I say . . . "Fiddlesticks!" . . . I get called in the Front Office . . . the Front Office says, kindly, . . . "Now, Jerk . . . we mean George, . . . on page 3, top photo the cut cap says Mr. Jones does all the manning of the Southwest Office of the Commission . . . Dan Heyl, Fishery Manager does some manning too!" . . . I hangs my head in shame, receive 20 lashes, (10 off for good behaviour) . . . then, on page 4 there's another potpie . . . up in the header . . . "the PENNSYLVANIA ANGLER asks some fishing Dads how they would tackle it and here's some answers" . . . now, ain't this somethin' awful . . . here is some answers. . . . Oh, well . . . you can't win 'em all . . . bet I could write better in Spanish. . . . BUT . . . you folks have troubles of your own so I'll get on down to the pool hall and have my knuckles cracked. . . . So long, for this issue (no better) . . . I wish youse luck! Fondly,

—Ye Ed

OLD PHOTOS WANTED

The *Pennsylvania Angler* is seeking OLD PHOTOGRAPHS taken prior to 1930 of anything relating to PENNSYLVANIA fishing, boating, bridges, ferries, barges, river and stream scenes, canals, etc. Aim is to discover the most interesting photographs published in the *Angler* and you need not have taken the picture yourself. Send either negative or print. All photos will be returned. Send all photos to the Editor, Pennsylvania Fish Commission, Harrisburg, Pennsylvania.

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There is something in the autumn that is native to my
blood—

Touch of manner, hint of mood;
And my heart is like a rhyme,
With the yellow and the purple and the crimson keep-
ing time.

The scarlet of the maples can shake me like a cry
Of bugles going by.
And my lonely spirit thrills
To see the frosty asters like a smoke upon the hills.

There is something in October sets the gypsy blood
astir;
We must rise and follow her,
When from every hill of flame
She calls and calls each vagabond by name.

—Bliss Carman







PENNSYLVANIA ANGLER

November 1960



The Turtle and the Kids



SCIENCE IN DUMP ROOTING



Joys of Outdoor Writing

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Pennsylvania Angler

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**PENNSYLVANIA FISH COMMISSION
COMMONWEALTH OF PENNSYLVANIA**

David L. Lawrence, Governor



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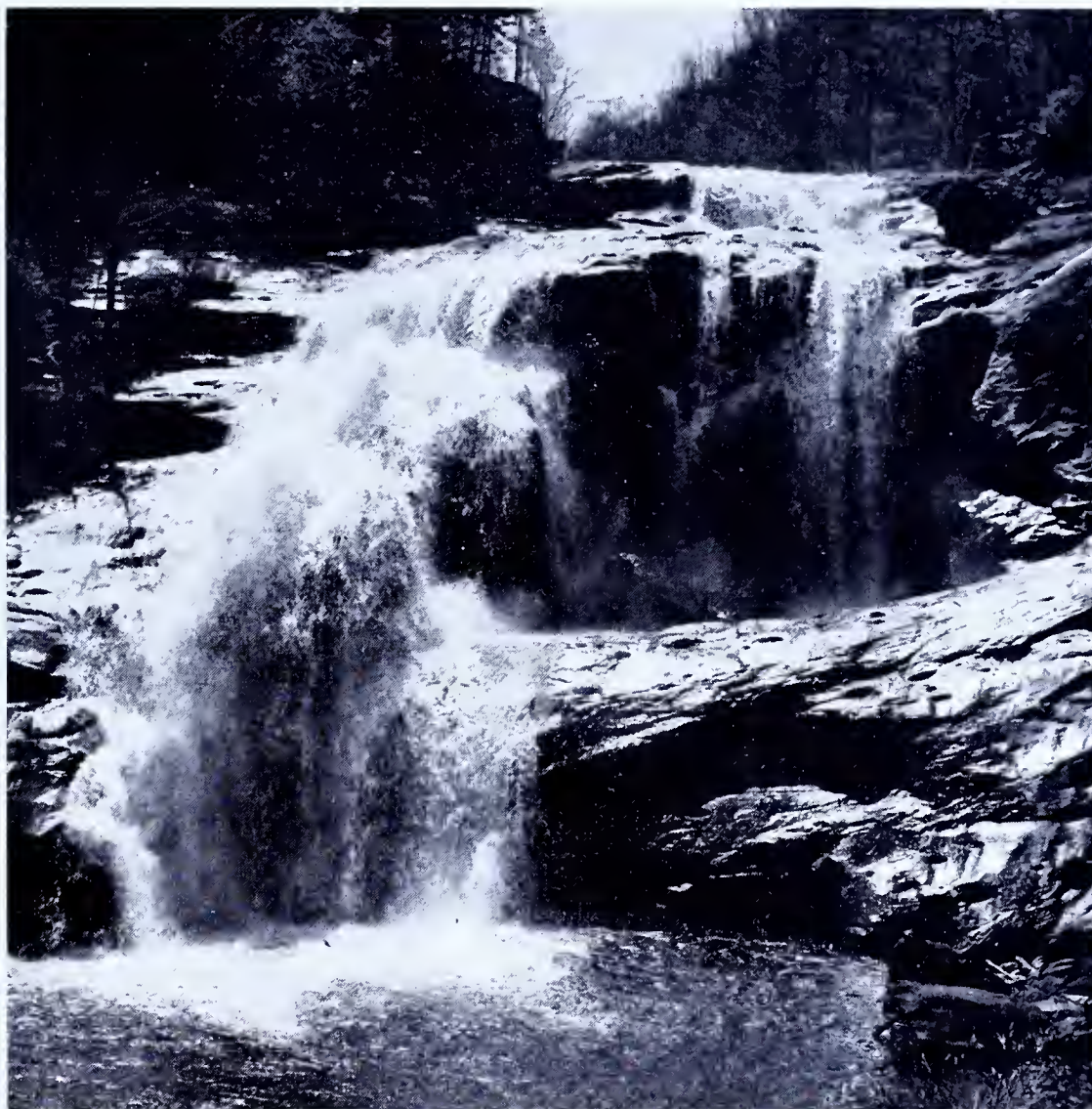
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Fish Commission Accomplishments

June 1, 1959, to May 31, 1960

By ALBERT M. DAY

Executive Director, Pennsylvania Fish Commission



HATCHERY AND DISTRIBUTION

Equipment was purchased for the installation of the jar method of hatching trout eggs at all of the hatcheries. Trout eggs were hatched entirely by this method, starting with the fall of 1959.

Concrete tanks are replacing worn out wooden troughs at some of the hatcheries, where the shallow troughs are no longer required for hatching purposes. Instead, the deeper concrete tanks will be used to hold trout fry a bit longer than heretofore in an environment more favorable to greater survival and better growth.

Production of muskellunge was greatly increased.

Production of northern pike has been increased.

Another Pennsylvania first was effected with the procurement of Kokanee eggs from the state of Montana. They were hatched successfully at the Pleasant Mount station and stocked as fry and fingerling on an experimental basis in eight lakes in Bedford, Centre, Cumberland, Fulton, Pike, Union, Wayne and Wyoming Counties.

Two raceways have been constructed at the Huntsdale Hatchery to improve the carrying capacity for fingerling trout.

Some improvements have been made to a number of the ponds at the Union City station for the purpose of increasing the facilities for muskellunge culture.

A new boat, the "Perca" has been added to the facilities at the Erie station. This boat will be used jointly by the

Law Enforcement, Research and Propagation Divisions of the Pennsylvania Fish Commission covering the work on Lake Erie.

Following is a summary of the fish stocked in the waters of Pennsylvania during the period June 1, 1958 to May 31, 1960:

<i>Species</i>	<i>Approximate Size</i>	<i>Number</i>
Brook trout	6 to 20"	1,149,608
Brown trout	6 to 26"	1,802,786
Rainbow trout	6 to 30"	1,342,926
Lake trout	6 to 28"	628
Total legal trout		4,295,948
Walleye	10 to 19"	5,152
Smallmouth bass	7 to 17"	8,714
Largemouth bass	4 to 22"	10,500
Muskellunge	19 to 45"	57
Northern pike	21 to 22"	40
Catfish	7 to 26"	300,369
Channel catfish	9 to 14"	3,656
Brown bullheads	8 to 14½"	11,529
Bluegills	1 to 10"	76,948
Other sunfish	7½ to 8½"	13
Pickrel	16 to 24"	879
Yellow perch	7 to 12"	29,061
White crappie	7½ to 12"	26,904
Black crappie	7½ to 8½"	93
Carp	16 to 18"	5,000
Smelt	6 to 9"	6,500
Rock bass	6½ to 9½"	2,956
White bass	6 to 13"	6,488
Sheepshead	11 to 19"	1,257
Golden Shiner Minnows ..	3 to 8"	4,500
Fathead minnows	1½ to 3"	47,900
Bluc pike	15 to 17"	1
Total adult warm water species		548,517
Total adult fish		4,844,465
Brook trout	fingerling	1,624,955
Brown trout	fingerling	631,415
Rainbow trout	fingerling	388,605
Lake trout	fingerling	37,760
Kokanee	fingerling	890,000
Total fingerling trout ...		3,572,735
Walleye	fingerling	126,327
Walleye	fry	1,700,000
Smallmouth bass	fingerling	60,000
Largemouth bass	fingerling	229,544
Muskellunge	fingerling	21,184
Muskellunge	fry	10,000
Sunfish	fingerling	5
Bluegills	fingerling	1,150
Northern pike	fingerling	1,890
Northern pike	fry	506,835
Eels	elvers	5,004,984
Total warm water fry and fingerlings		7,661,919
Total fry and fingerlings		11,234,654

RESEARCH AND FISHERY MANAGEMENT

Progress and important accomplishments in the fields of fish research and fish management are as follows:

The new method of incubating trout eggs developed and successfully applied at the Benner Spring Fish Research Station was released to the Commission's production hatcheries. This advancement, which saves hatchery space and requires less water, involves the use of jars instead of trays for egg incubation. The method also entails the use of formalin in proper concentrations as an egg fungicide which eliminates the greater portion of the time consuming procedure of picking dead eggs by hand.

Colorants were introduced into trout diets to produce more highly colored trout for stocking. Research, however, is being continued with the hope that colorants may be added to the pellet type food for preparations.

A number of commercial pelleted fish foods were evaluated in the search for a "complete diet" pellet for trout.

In the spring of 1960, warm water fish research was expanded to include the muskellunge, northern pike and pickerel. Experiments were conducted to attempt to find a more satisfactory method of fertilizing and incubating eggs and rearing the young. The life history of the adults in Pennsylvania waters is also being studied.

Several studies on fish pathology were continued and new ones undertaken. These include an evaluation of the disease resistance of the strains of fish being developed at Benner Spring, an evaluation of a number of chemical compounds for their effectiveness on fungus disease of fish eggs, the possibilities of immunizing trout against furunculosis by oral means and studies on the immunology of ulcer disease of trout.

Continued research is being conducted toward the diagnosis and control of any serious fish diseases which appear in state hatcheries. Studies on two such trout diseases are currently underway.

Other projects on fish diseases include a study of virus discases of fish using tissue culture techniques, the investigation of the cellular components of fish blood under disease conditions and the administration of therapeutic agents to certain species of warm water fish that feed only on living food.

The staff at the Benner Spring Station contributed one paper to the Transactions of the American Fisheries Society and several to the Progressive-Fish Culturist. A number of articles were prepared for the PENNSYLVANIA ANGLER.

Three research projects are being conducted in cooperation with the Pennsylvania State University. One project now in its second year deals with factors affecting the mortality of warm water fish during handling and transportation. Information has been obtained on the effect of bacterial invasion during confinement of fish and more important on the build-up of toxic waste products. Measures to counteract these detrimental effects are being investigated.

Another project concerns the serological diagnosis of fish disease. Immunological reactions in furunculosis have been studied and valuable information has been gained toward the control of this important trout disease as well as pos-

sible application of the same principles to other bacterial fish diseases.

In a third project major blood types have been established in rainbow and brown trout. These blood types can be used to determine different races of these two species of trout in natural or hatchery populations. It is hoped that the blood types discovered can be correlated with growth and egg production as it is in chickens or with disease resistance as in humans.

The development of a big-water electro-fishing unit using pulsed AC current was undertaken in cooperation with the Pennsylvania State University. Early tests with this equipment reveal that relatively high voltages will be needed—especially in lakes where water of low conductivity is frequently found. When perfected, this equipment will be used in fish salvage and in making fish population studies.

Assistance was given the Commission's stream improvement program in planning the type and location of devices to be installed.

Personnel of the biological staff made an analysis of 1959 fishing license applications to determine the percentage of anglers who (1) fished for trout and (2) ice-fished, the preceding year. Of 6,400 license applications sampled, 57% of the anglers stated they fished for trout. How frequently they fished for trout or whether they also fished for warm water species could not be determined. Only about 6% stated they ice-fished.

A project was undertaken to determine the value of planting fry and fingerling trout in streams. Results to date indicate that few of these small fish survive to enter the angler's creel; however, brown trout display better survival than do brook and rainbow.

Studies have been continued through 1959 and 1960 to find more effective and less hazardous chemicals for the control of aquatic weeds. Testing of these new herbicides has been confined primarily to ponds and raceways located at the Benner Spring Fish Research Station and at the Bellefonte State Fish Hatchery. Several of the materials tested during the past year appear promising for controlling several wide-spread aquatic plants in both the hatchery situation and in ponds and lakes. Herbicides were applied to two Fish Commission lakes with satisfactory results.

Some of the answers to the problem of ever-increasing demands for more and better fishing may be found in a north central Pennsylvania trout stream where the biological staff has initiated and developed a "fish-for-fun" project. In this stream no stocking is done, fishing is permitted the year round with flies only, but no fish may be killed. The project, now in its third year, has attracted nationwide attention and has been featured in leading national sporting magazines. Extensive fish sampling indicates a high native trout population is present. Interviews with anglers who come from all quarters of Pennsylvania and most northeastern states show a growing interest in this type of fishing. Many other states have inquired about this pilot project and some expect to copy it soon.

The problem of truck following has confronted the Pennsylvania Fish Commission ever since the initiation of in-season planting of legal size trout. A study was undertaken in fifteen streams and two lakes to determine if feed-

ing just before stocking would prevent the immediate catch. The catch of the fed fish on the day of planting was reduced to about one-half that of normally stocked fish.

A ten day wardens' technical training course was initiated by the staff at the Benner Spring Station. This course was designed to give the warden basic information on fish culture, fish diseases, limnology, water chemistry and fish management. About twelve men can be accommodated in each class. This course will be continued on an annual basis.

The work of the six regional managers who operate from the regional offices, is of necessity, variable in nature but basically it is designed to bring better fishing to each portion of the Commonwealth. Surveys of streams and lakes to determine proper fish management methods were continued. One large lake and several ponds were chemically treated to remove the existing, undesirable fish populations and restocked according to management plans. Evaluation studies were continued in several lakes where primary emphasis is being placed on establishing predator game species following chemical reclamation.

Special creel censuses to evaluate management plans and to determine fishing pressure and fish catches were completed on Lake Somerset, Somerset County; Red Bank Creek, Jefferson County, (in cooperation with the U. S. Fish and Wildlife Service); and on Lake Clarke on the Lower Susquehanna River (a cooperative study under the direction of the Susquehanna River Advisory Committee).

Fish management planning for new impoundments received major attention by the managers. Pre-impoundment surveys were made and comprehensive fish management plans were developed for the impoundments built primarily for fishing by the Pennsylvania Fish Commission with federal aid. Preliminary biological studies were made and fish management plans drawn for multiple purpose impoundments developed by the Pennsylvania Department of Forests and Waters, the U. S. Corps of Army Engineers and more recently the Soil Conservation Service (Small Watersheds Program). Pre-impoundment work in one 1700 acre Forests and Waters impoundment included the chemical eradication of undesirable fish from the entire watershed (42 square miles). So extensive was this operation that a helicopter was used for a portion of the chemical treatment.

Electro-fishing gear was used in important trout streams to obtain information on survival of planted trout, extent of trout reproduction, size of wild trout populations and the abundance and value to the angler of other fish species present. To give fishermen an opportunity to observe this



phase of fish management work, a series of public demonstrations of the use of electro-fishing gear was conducted in each region. Some of these were attended by as many as 200 observers.

A comprehensive plan for the study of the Susquehanna River, its main branches and its four lower impoundments was developed by fishery managers. The initial phase of the study includes gathering data on the biological, physical, chemical and hydrological characteristics of the river. Purpose of the project is to bring our knowledge of the river up to date and thus enable the Fish Commission to establish a sound warm water fish management program there. Headquarter facilities for this work have been provided at Holtwood and, while the main stem of the river will receive major attention, the West and North Branches of the river will also be included in the study.

Several fishery biologists from Pennsylvania, together with fishery biologists from New York and New Jersey, participated in a tri-state study of the Delaware River which included gathering data on fish populations, water chemistry and related matters. This basic inventory is needed if good management for sport fishing is to be obtained and is of the utmost importance for planning for the proposed impoundments on the river.

The research work on Lake Erie was enhanced by the purchase of the vessel "Perca" which was used part-time for research activities on the lake. Joint biological studies with bordering states, Ontario and the U. S. Bureau of Commercial Fisheries were continued. These operations include environmental, life history and fish population studies and evaluation of yield to sport and commercial fisheries. Routine sampling with trawls and other gear was accomplished at index stations.

Several studies of Lake Erie commercial and sport fisheries were expanded. Recent biological trends have been toward a steady decline in availability of the blue-pike and white fish and an explosive increase in such under-utilized species as the smelt, gizzard shad and sheepshead. Experimental trawling is being conducted to determine commercial availability of smelt to trawls in Pennsylvania waters. Demonstrations on the use of trawling equipment are being given to area commercial fishermen.

Other work accomplished includes tagging commercial and hook-and-line fish species to determine their migrations and distribution, studies to determine if plantings of hatchery rainbow trout in tributaries of Lake Erie can establish significant rainbow spawning runs in these streams and a continued investigation of the incidence of lamprey scarring of important commercial fish species in Lake Erie.

Added emphasis was placed on conservation education and publicity by the Division of Research and Management. Throughout the state, lectures and/or demonstrations dealing with fish management and research and other activities of the Fish Commission were presented to sportsmen's clubs, service clubs, boy scouts and other organizations. Special programs were prepared for teachers' conservation work shops, junior conservation camps and professional societies. Personnel at the Benner Spring Station conducted more than sixty tours for fisheries workers and other visitors from many states, the U. S. Fish and Wildlife Service and several foreign countries.

In addition to general surveys designed to improve fishing on the Susquehanna River system, the Commission has employed Milo Bell, Consulting Engineer and Harlan Holmes, Consulting Biologist to make the required studies of the dams on the Susquehanna River and to prepare plans for fish passage facilities at these dams. The preliminary study was made and the Commission has authorized continuation of employment of these specialists to complete the job.

ENGINEERING

Preliminary engineering surveys were conducted on 40 sites in 24 counties. Included in these studies were potential access areas on lakes and rivers and potential lake sites. Though as a result of these studies, some sites were found not feasible for their proposed type of development, many are now either developed or in various stages of acquisition or development.

Investigations were also conducted on the following: Negro Glade Dam Site, Somerset County, core drilling and preliminary topography; Mill Creek Dam Site, Tioga County, core drilling, this area to be developed in cooperation with Soil Conservation Service and Public Law 566; Meadow Grounds Dam Site, Fulton County, core drilling and preliminary topography; Big Yellow Creek Dam Site, Indiana County, core drilling and topography of embankment area, preliminary topography of the area was furnished by Indiana County Commissioners; Mountain Springs, Luzerne County, preliminary topography; Hammer Creek Dam Site, Lancaster County, core drilling and preliminary topography; Rock Run Dam Site, Indiana County, preliminary investigation and topography; Sugar Lake, Crawford County, investigated possibility of increasing lake acreage; access area on North Branch Susquehanna River at Laceyville; access area to Lake Erie at Lake City; access area to Lake Erie at Northeast; access area at Eaton Reservoir; and access area on Susquehanna River at West Fairview. Other areas in various sections of the state were inspected and were either eliminated as not feasible or were recommended for further studies.

Land surveys were completed on six proposed lake sites or existing lake properties as follows: Canonsburg Lake in Washington County, Belmont Lake in Wayne County, Mountain Springs in Luzerne County and Opossum Creek in Cumberland County, Hammer Creek Dam Site, Lancaster County, and Negro Glade Dam Site, Somerset County, and the following access areas: Delaware River, Wayne County, Dexter Tract and the Burcher Tract; North Branch Susquehanna River, Wyoming County, Kenny Tract; Conodoguinet Creek, Cumberland County, Melling Tract; West Branch Susquehanna River, Northumberland County, Penn Nursery Tract; and Lackawaxen Creek, between Belmont Lake and Pleasant Mount Hatchery, Wayne County, Terry, Oprisko and Ksenich Tracts.

Engineering plans and specifications were completed for Opossum Creek Dam Site, Cumberland County, and Mud Pond, Wyoming County, and 75% completed for Brady's Lake, Monroe County; new heating plant in existing hatchery building at Erie Hatchery; combination garage and cold storage building at Linesville Hatchery; and tests and preliminary planning done for new fish transportation tanks for hatcheries, done at the Bellefonte Hatchery.

Twenty-eight access sites on rivers and lakes were im-

proved as follows: Upper Woods Pond, Wayne County—30 car parking area and boat launching ramp; Miller Pond, Wayne County—15 car parking area and boat launching ramp; Reining's Pond, Wayne County—boat launching ramp; Greeley Lake, Pike County—10 car parking area and boat launching ramp; Fairview Lake, Pike County—12 car parking area and boat launching ramp; Tunkhannock access area, Wyoming County—15 car parking area and boat launching ramp; Muskrat Spring, Juniata County—25 car parking area and boat launching ramp; Silvis tract, Perry County—25 car parking area and boat launching ramp; Sugar Lake, Crawford County—20 car parking area and boat launching ramp; French Creek, Crawford County, Cambridge Springs tract—20 car parking area and boat ramp; French Creek, Crawford County, Gongaware tract—20 car parking area and boat ramp; French Creek, Crawford County, Saegerstown tract—30 car parking area and ramp; Spring Creek access, Centre County—1 mile access road; Dutch Fork parking area, Washington County—50 car parking area; Oil City parking area and boat ramp, Venango County—parking area and boat ramp, North Branch Susquehanna River (Munn Tract), Bradford County—20 car parking area and boat launching ramp; Bryants Pond Access Area, Luzerne County—25 car parking area; Sylvan Lake Access Area, Luzerne County—20 car parking area and boat launching ramp; Susquehanna River access area, York County—50 car parking area and boat launching ramp; Musser's Dam access area, Snyder County—20 car parking area and boat launching ramp; Lake Lorraine access area, Wayne County—25 car parking area and boat launching ramp; Chapman Lake access area, Lackawanna County—25 car parking area; White Oak Pond access area, Wayne County—15 car parking area and boat launching ramp; Allegheny River access area, Warren County—20 car parking area and boat launching ramp; Allegheny River access area, Forest County—20 car parking area and boat launching ramp; French Creek access area (Fenno property), Erie County—10 car parking area; Cussewago Creek access area (Beers Tract), Crawford County—30 car parking area and boat launching ramp; and Cranberry Glade access area, Somerset County—50 car parking area and boat launching ramp. In addition a preliminary development of a 15 car parking area was completed on the Susquehanna River at New Cumberland Depot. This project is to be completed at a later date. A new concrete beam corduroy type ramp was installed at the Muskrat Springs access area on the Juniata River, Juniata County.

Completion of the reconstruction of Belmont Lake, Mt.

Pleasant Township, Wayne County. This was a Dingell-Johnson project and had final inspection on November 16, 1959. The start of a new lake on Opossum Creek, Lower Frankfort Township, Cumberland County. This also is a Dingell-Johnson project. Work was started on October 1, 1959, and was 15% completed on May 31, 1960.

The new Dutch Fork Lake in Washington County was completed.

Stream improvement work was completed or in progress on sections of streams as follows: Blue Eye Run in Warren County— $\frac{1}{4}$ mile; East Branch Dyberry Creek in Wayne County— $\frac{1}{4}$ mile; Little Lehigh Creek in Lehigh County— $1\frac{1}{2}$ miles; Dickey's Run (Buck Run) in Franklin County— $\frac{1}{4}$ mile; Dunbar Creek, Fayette County, work completed on approximately $1\frac{1}{2}$ miles of stream and consisted of five dams, and one channel block; East Licking Creek, Mifflin and Juniata Counties, work completed on approximately $3\frac{3}{4}$ miles of stream and consisted of eight dams, three single deflectors, four double deflectors, eleven fish shelters and three channel blocks; Medix Run, Elk and Clearfield Counties, work completed on approximately 4 miles of stream and consisted of one log floor dam, one cribbing-type channel block, two double deflectors, one single deflector, two bank frames and fence, and one log boom cover; Little Bear Creek, Lycoming County, work completed on approximately $2\frac{1}{2}$ miles of stream and consisted of converting two double deflectors into two-stage type, converting one single deflector into two-stage types, and construction of 171 feet of cribbing-type channel block, one single wing deflector with floor, one channel block and two plank dams.

REAL ESTATE

The Real Estate Division stepped up its operations in line with Commission policy. The Commission's complete awareness of a continued loss of existing and accessible fishing water because of spreading urbanization, expanding industry and accelerated agriculture was the basis for this increased activity.

Personnel of the division was increased by the addition of maintenance men to take care of properties acquired and being acquired. The maintenance program, adopted early in 1958 was fully implemented in this period. Equipment for each of the four maintenance districts was acquired and the additional crews began regular scheduled visits to the developed properties within their respective districts.

The establishing of the long needed and much desired "sign shop" became a reality. With the identification of all Commission properties, the fishing and boating public can now recognize and utilize these available areas.

In land acquisition work, twenty-eight access areas were acquired by the Commission on rivers and lakes throughout the state. These areas were secured through cooperation with the federal and state governments, private industry, municipalities and individual property owners. Contact with property owners was pursued from early morning to late at night but the results were gratifying.

Included were properties as follows: on the Susquehanna River at Goldsboro, New Cumberland and Wrightsville in York County; at Laceyville in Wyoming County; West Fairview in Cumberland County; Hallstead in Susquehanna County; Northumberland in Northumberland



County; on the Allegheny River at Oil City and Franklin in Venango County; on the Schuylkill at Pennhurst in Montgomery County; the Clarion River at Mill Creek in Clarion County; on Lake Erie at Erie and Lake City in Erie County; at Upper Woods Pond in Wayne County, and an addition to the Muskrat Springs access area in Juniata County.

Additional access sites were purchased on the Delaware River and the Lackawaxen Creek in Wayne County; the Conodoguinet Creek in Cumberland County; the Cussewago Creek and Canadohta Lake in Crawford County; Musser's Dam in Snyder County; the North Branch of the Susquehanna River in Bradford as well as Susquehanna County; on Duck Harbor Pond in Wayne County; Allegheny River in Venango and Warren Counties; and land for an access road to Spring Creek in Centre County. The latter property was acquired by agreement with the Pennsylvania Department of Justice.

Public fishing rights on five water reservoirs providing an additional 747 acres of fishing water were negotiated. These included the water supply reservoirs of North East Borough in Erie County, Chambersburg in Franklin County, Waynesboro in Adams County, and Evitts Creek Water Company (two) in Bedford County.

New lake sites acquired include those on Opossum Creek in Cumberland County, at Mountain Springs in Luzerne County, and the Meadow Grounds on Game Land No. 53 in Fulton County.

Land acquisitions to enlarge present Fish Commission-owned lakes were completed at Belmont Lake and Long Pond in Wayne County.

Investigations were made and land options obtained on eight potential lake sites as well as two areas in which we are cooperating with the Soil Conservation Service for multiple purpose impoundments.

Negotiations were initiated for the purchase of three existing lakes.

A fishery biologist research station was leased at Holtwood Village, Lancaster County, from the Pennsylvania Power & Light Company for fishery study on the Susquehanna River.

LAW ENFORCEMENT

All wardens in whose districts pleasure boating is enjoyed received instruction and additional training in boats, boat handling, rules of the road and enforcement procedures.

In order to cope with the increased pleasure boating on Pennsylvania waters, twenty additional motors and nineteen additional boats were purchased by the Fish Commission for patrol purposes. Four of these boats are inboards, one for work on Lake Erie, and three cruisers to be used on the rivers in the western part of Pennsylvania.

Two new regular fish warden positions were created and filled, one in Allegheny County and the other in Cambria County.

Seasonal patrolmen were hired each summer to patrol some of the larger bodies of water from Memorial Day to and including Labor Day.

A two-week special technical training course on fish was given for the first time at the Benner Spring Research Station. Instruction consisted of basic information on lim-



nology, water chemistry, fish diseases, fishery management and other subjects related to fish and fishing. The course was taken by six warden trainees and six regular wardens. As a result of the benefits derived, it is now conducted on an annual basis.

As a result of these and other recently instituted training procedures for both warden trainees prior to assignment and regular wardens, not only have better performance records been compiled in enforcement, pollution control and education, but the participation of the warden force in other phases of the Commission's activities has been broadened.

During this biennium 120 pollution cases were settled by voluntary contributions amounting to \$44,416.61. It was only necessary to prosecute 13 pollution cases. The penalties amounted to \$1,382.50. The total pollution cases settled was 133. The total monies collected for pollution was \$45,799.11, which was approximately a 400% increase over previous bienniums.

Ninety-five per cent of all fish and motorboat cases prosecuted were decided in favor of the Commonwealth. It should also be mentioned that during this period over three thousand technical arrest reports were filed in which no prosecutions were made but warnings issued.

CONSERVATION EDUCATION

Decided improvements were made in the fisheries educational program, including the dissemination of information on the activities of the Fish Commission. A general advancement in ways and means of furnishing information to the fishing public was accomplished. These included news releases to the press, radio and television; the monthly publication of the "Pennsylvania Angler"; responses to thousands of inquiries from organizations and



individuals; publication of informative literature, maps and booklets; the projection of a visual program involving slide lectures, and the construction of many diversified exhibits.

During the past two years a total of 92 news and information releases were prepared and distributed to the daily and weekly newspapers, radio, television and outdoor columnists and news commentators, while many assignments were made, sending various personnel to speak before clubs—service clubs, schools, churches, banquets, etc., in a well designed program of correlating the work and policies of the Fish Commission with the public generally.

The slide lecture, "The Fishery Manager in Pennsylvania" was revised, and the production of four new slide lectures, including "Pymatuning," "Fishes of Pennsylvania," "The Fish Warden in Pennsylvania," and "The Role of Research" were accomplished.

A second edition of the booklet, "Pennsylvania Fishes" was published, and new publications entitled, "Public Fishing Properties and Facilities," "Administering A State Fishery—It's A Complex Business" (a reprint from the "Pennsylvania Angler") and "Fish Culture in Pennsylvania" were completed. Material for an expanded second edition of "Pennsylvania Reptiles and Amphibians" and "Pennsylvania Fishing Waters" (a guide) was developed and delivered to contract printers for publication before the end of 1960.

The Waters-Highway Maps were completed. These maps are by counties and cover the entire state. Following is a review of this project, together with the purchase prices:

County	Price	County	Price
Allegheny	35¢	Lackawanna-Wyoming	50¢
Armstrong	35¢	Lancaster	35¢
Bedford	35¢	Lawrence-Beaver ..	50¢
Berks	35¢	Lehigh-Northampton	50¢
Blair-Cambria	50¢	Luzerne	35¢
Bradford	35¢	Lycoming	35¢
Bucks-Montgomery .	50¢	McKean	35¢

Butler	35¢	Montour-Northumberland	50¢
Cameron-Elk	50¢	Perry-Juniata-Mifflin	50¢
Carbon-Monroe ...	50¢	Pike	35¢
Centre	35¢	Potter	35¢
Chester-Delaware ..	50¢	Schuylkill	35¢
Clearfield	35¢	Somerset	35¢
Clinton	35¢	Sullivan-Columbia	50¢
Crawford	35¢	Susquehanna ...	35¢
Cumberland-Adams.	50¢	Tioga	35¢
Dauphin-Lebanon ..	50¢	Union-Snyder ...	50¢
Erie	35¢	Venango-Mercer .	50¢
Fayette	35¢	Warren-Forest ..	50¢
Franklin-Fulton	50¢	Washington-Greene	50¢
Huntingdon	35¢	Wayne	35¢
Indiana	35¢	Westmoreland ..	35¢
Jefferson-Clarion ...	50¢	York	35¢

The first series of titled slides was completed to be used in the Commission's admatic machines for exhibit at public appearances throughout the Commonwealth.

Three model aquariums for the display of live fish were accomplished and are currently being placed on exhibition together with art panels illustrating Commission publications and stream improvement panel exhibits for educational displays before sportsmen's shows, fairs, etc.

The "Pennsylvania Angler" the Commission's official monthly publication, was expanded to the end that Commission activities in all its phases were presented in a more improved style and column coverage. This improvement included many informative articles on various subjects as prepared by the respective divisions of this Commission.

The accumulation of colored motion picture film was increased considerably. This film is for the purpose of producing motion picture features, which in turn is planned to become an important factor in the Commission's public relations program. Changing seasons, plus unpredictable weather conditions control the progress of this work.

FINANCIAL REVIEW FOR THE FISCAL YEAR JUNE 1, 1959, TO MAY 31, 1960

By PAUL J. SAUER, Comptroller.

In the presentation of any financial report, it is expedient to include certain remarks in connection therewith, in order that proper and uniform interpretation may be given to the financial statement itself and also to any supporting or related schedules.

The accompanying schedules and pie charts detail the fiscal operations of the Fish Commission for the first year of the 1959-1961 Biennium.

SCHEDULE NO. I			
CONSOLIDATED STATEMENT OF FINANCIAL POSITION			
AS OF MAY 31, 1960			
CASH	LIABILITIES AND WORKING CAPITAL		\$1,474,138.71
LESS:	VOUCHERS PAYABLE—PENNSYLVANIA FISH COMMISSION	\$ 11,550.74	
	ENCUMBRANCES—PENNSYLVANIA FISH COMMISSION	436,664.75	
	ENCUMBRANCES—DEPT. OF REVENUE	5,545.80	
	RESERVE FOR WORKING CAPITAL	700,000.00	1,153,761.29
NET BALANCE AVAILABLE FOR EXPENDITURE			
DURING FISCAL YR. 1960-61			\$ 320,377.42

SCHEDULE NO. I.—This schedule reflects the net financial position of the Commission as of May 31, 1960. What would appear to be a substantial cash balance at the end of the fiscal year must not be looked upon as being a "surplus." Normal operating liabilities and working reserves at the end of the fiscal year must be supported and paid out of this cash balance. Only then may the net balance be considered as being available for expenditure during the following year. The ensuing explanations are offered in support of the attendant liabilities and reserves:

1. "Vouchers Payable" represents operating expenses which were processed for payment to the fiscal offices of the Auditor General and State Treasurer prior to May 31, 1960, but which were not paid as of that date.

2. "Encumbrances" represent definite expenditure commitments in the form of purchase orders and other duly executed contracts for the purchase of materials and supplies, fish food, fuel, rentals and similar operating expense items. The encumbrances incurred by the Department of Revenue, in the amount of \$5,545.80, are in connection with the printing and issuing of fishing and motorboat licenses.

3. "Reserve for Working Capital," in the amount of \$700,000.00, is necessary to enable the Commission to carry on normal operations during the seven month period, September through March, when expenditures are greatly in excess of income.

4. The "Net Balance Available for Expenditure" during the fiscal year 1960-1961 is added to the estimated receipts and becomes part of the total amount on which the budget for the 1960-1961 Biennium is predicated.

SCHEDULE NO. II.—This schedule reveals that the Commission began operations on June 1, 1959, with a cash balance of \$1,730,564.98, from which is deducted the sum of \$86,605.28. This amount represents unpaid vouchers of the Commission which were on hand in the Fiscal

Offices of the Auditor General and State Treasurer on May 31, 1959.

Total receipts from all sources amounted to \$2,283,600.04 during the year, so that a grand total of \$3,927,559.74 became available for the overall program.

Total expenditures (see footnote "a") by the Fish Commission amounted to \$2,317,642.50 during the year. To this figure we add the expenditures of other State departments, totaling \$147,329.27, which makes a grand total of expenditures of \$2,464,971.77 from the Fish Fund.

After deducting these expenditures from the total available funds, a balance of \$1,462,587.97 remains available for budgeting in the 1960-1961 fiscal year, plus the sum of \$11,550.74, which represents unpaid vouchers at May 31, 1960. These unpaid vouchers (which are recorded as expenditures) are added to the available cash balance in order to reconcile with the actual Cash Balance in the State Treasury to the credit of the Fish Fund on May 31, 1960. This Cash Balance is subject to certain liabilities and reserves, as shown in Schedule No. I and as explained earlier.

SCHEDULE NO. III.—This schedule is presented in two parts and is intended to show the extent of the Commission's compliance with the Legislative mandate of Act No. 330, Session of 1957, P.L. 619. Receipts and expenditures are shown on a calendar year basis in order to conform with the license year.

The first part of the schedule shows expenditures in detail by type of activity and by class of expenditure. The second part of the schedule summarizes the earmarked receipts and expenditures, in compliance with the provisions of the Act. While it would appear that the Commission is underexpended, the fact is that there were more than enough encumbrances on May 31, 1960, to offset this apparent underexpenditure. For all practical purposes, the Commission had overexpended in the amount \$559,101.78 when Act No. 283 was amended September 1, 1957, by

SCHEDULE NO. II

PENNSYLVANIA FISH COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JUNE 1, 1959 TO MAY 31, 1960

REVENUE	
Cash in State Treasury to Credit of "Fish Fund" June 1, 1959	\$1,730,564.98
Less: Unpaid Vouchers in Fiscal Offices as of May 31, 1959.....	—86,605.28
Net Cash Available for Expenditure as of June 1, 1959	\$1,643,959.70
Receipts June 1, 1959 to May 31, 1960	
Resident Fishing Licenses	\$1,739,903.55
Non-Resident Fishing Licenses	98,789.30
Non-Resident Trout Stamps	3,947.90
Special Eel Licenses	7.00
Motorboat Licenses	146,082.25
Tourist Fishing Licenses	30,966.80
Lake Erie Licenses	1,985.00
Commercial Hatchery Licenses	8,940.00
Fee Fishing Lake Licenses	4,844.05
Fish Law Fines	28,298.00
Motorboat Fines	9,020.00
Interest on Securities	9,226.39
Interest on Deposits	19,135.66
Sale of Unserviceable Property (Department of Property and Supplies).....	1,734.70
Contributions for Restocking Streams	58,424.18
Contributions from Federal Government (Dingell-Johnson Act)	86,657.38
Sale of Publications	14,910.92
Rental of Fish Commission Property	5,880.00
Miscellaneous Revenue—Fish Commission	4,826.19
Miscellaneous Revenue—Revenue Department	28.97
Refund of Expenditures—Not Credited to Allocations	7,325.04
Sale of Vehicles (Department of Property and Supplies)	2,666.76
Total Receipts from all Sources	2,283,600.04
Total Funds Available During Year	\$3,927,559.74

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Exec. and General Administration	Propagation	Research	Law Enforcement	Conservation Education	Land and Waters Management	Engineering and Development	Commission Total
Salaries	\$ 88,623.16	\$ 610,012.69	\$130,630.61	\$282,456.66	\$ 35,068.50	\$ 28,903.96	\$ 45,297.80	\$1,220,993.38
Wages	3,691.15	40,392.35	21,192.16	12,182.20	310.00	12,081.89	80,682.36	170,532.11
Printing, Binding & Stationery	18,370.64	861.84	443.23	826.03	41,498.16	766.00	114.68	62,880.58
Food & Forage	37.80	196,911.38	1,180.53	—0—	—0—	—0—	—0—	198,129.71
Materials & Supplies ..	885.65	45,981.57	19,618.28	4,151.12	3,782.39	3,764.07	45,621.07	123,804.15
Fees	459.80	—0—	2,040.00	102.30	20,775.44	3,890.24	408.50	27,676.28
Traveling Expenses ..	11,067.75	11,187.84	10,685.29	85,443.31	1,897.23	5,854.57	11,810.57	137,946.56
Motor Vehicle Supplies & Repairs	1,081.34	25,392.81	5,135.94	—0—	199.19	1,307.10	2,799.76	35,916.14
Postage	1,605.94	775.54	696.87	1,771.75	4,443.82	56.00	104.00	9,453.92
Telephone & Telegraph ..	4,783.85	5,482.58	4,027.18	7,558.77	1,008.19	465.59	761.67	24,087.83
Newspaper Advertising & Notices	—0—	—0—	—0—	—0—	—0—	—0—	—0—	—0—
Light, Heat, Power, Water, Scwage, Fuel ..	—0—	32,870.09	3,407.13	309.85	—0—	—0—	218.64	36,805.71
Contracted Repairs ..	18.50	4,119.03	653.26	1,170.04	188.39	1,446.60	5,090.00	12,685.82
Rent of Real Estate ..	—0—	2,411.72	1,935.64	2,407.14	10.50	—0—	5.00	6,770.00
Rent of Equipment ..	895.80	2,010.00	2,313.12	—0—	118.00	—0—	43,778.52	49,115.44
Insurance, Surety & Fidelity Bonds	822.59	7,348.99	1,755.39	2,585.79	318.33	325.85	936.53	14,093.47
Other Operating Services & Expense ..	13,955.85	356.12	863.75	1,147.83	601.27	1,694.54	266.84	18,886.20
Motor Vehicle	—0—	33,007.81	3,996.10	—0—	—0—	—0—	3,612.87	40,616.78
Other Equipment & Machinery	41.24	21,859.79	8,074.12	54.00	1,867.00	14,900.33	306.37	47,102.85
Land	—0—	—0—	—0—	—0—	—0—	12,672.46	67,913.07	79,913.07
Buildings & Structures ..	—0—	—0—	—0—	—0—	—0—	—0—	—0—	—0—
Non-Structural Improvements	—0—	—0—	—0—	—0—	—0—	—0—	—0—	—0—
Grants & Subsidies ..	—0—	—0—	—0—	—0—	—0—	—0—	—0—	—0—
Refunds of Revenues & Receipts	232.50	—0—	—0—	—0—	—0—	—0—	—0—	232.50
TOTAL EXPENDITURES BY FISH COMMISSION ..	\$146,573.56	\$1,040,982.15	\$218,648.60	\$402,166.79	\$112,086.41	\$ 88,129.20	\$309,055.79	\$2,317,642.50

Plus: Expenditures by Other State Departments (*)

Department of Revenue—Printing and Issuing Fishing and Motorboat Licenses and Tags	56,087.67
Department of State—Contributions to State Employees' Retirement System	64,563.00
Treasury Department—Replacement Checks	—0—
Department of Labor and Industry—Contributions for Social Security	26,678.60

TOTAL EXPENDITURES

Cash Balance May 31, 1960, Available for Expenditure in the 1960-1961 Fiscal Year	\$1,462,587.97
Plus: Unpaid Vouchers in Fiscal Offices as of May 31, 1960	11,550.74

Cash Balance in State Treasury to Credit of "Fish Fund" May 31, 1960

(*) These items are paid out of the "Fish Fund" upon requisitions drawn by the other departments and are included for a complete presentation of the "Fish Fund" finances.

SCHEDULE NO. III

EXPENDITURES IN COMPLIANCE WITH ACT NO. 330—SESSION OF 1957

Act No. 330, Session of 1957, P. L. 619, amends the Act of May 2, 1925, P. L. 448. This Act became effective September 1, 1957, and provides that the sum of One Dollar (\$1.00) from each resident and non-resident fishing license fee shall be used exclusively for (I) the acquisition, leasing, development, management and maintenance of public fishing waters and of areas for providing access to fishing waters and the carrying out of lake and stream reclamation and improvement; (II) the rebuilding of torn-out dams and (III) the study of problems related to better fishing.

For the Calendar Year 1959—January 1, 1959 to December 31, 1959

	Fishery Management and Fish Management Research	Reclamation of Lakes and Improvement of Streams	Acquisition of Lands and Fishing Waters	Management and Maintenance of Lands and Fishing Waters	Development of Lands and Fishing Waters	Totals
SALARIES AND WAGES	\$102,591.30	\$ 30,513.53	\$ 40,126.54	\$ 17,934.48	\$ 68,086.76	\$259,252.61
Salaries	91,061.42	14,027.86	29,780.46	9,394.76	19,724.90	163,989.40
Wages	11,529.88	16,485.67	10,346.08	8,539.72	48,361.86	95,263.21
OTHER OPERATING EXPENSES	21,948.72	12,136.43	11,623.80	9,209.50	97,767.98	152,686.43
Printing, Binding, Stationery	278.60	54.26	387.25	301.28	22.69	1,044.08
Food and Forage	—0—	—0—	—0—	—0—	—0—	—0—
Material and Supplies	6,738.00	5,178.14	604.29	2,389.58	42,597.84	57,507.85
Fees	—0—	—0—	2,691.74	1,257.50	—0—	3,949.24
Traveling Expenses	5,557.13	2,971.77	5,343.16	2,053.42	8,230.29	24,155.77
Motor Vehicle Supplies and Repairs	2,347.89	1,214.61	1,314.04	572.94	1,877.58	7,327.06
Postage	465.51	48.25	105.40	23.60	50.00	692.76
Telephone and Telegraph	2,511.75	142.68	676.62	112.83	408.44	3,852.32
Newspaper Advertising and Notices	—0—	—0—	—0—	—0—	—0—	—0—
Light, Heat, Power, Water, Sewage and Fuel	794.42	17.30	98.86	7.42	123.57	1,041.57
Contracted Repairs	294.10	769.03	27.04	1,460.85	887.03	3,438.05
Rent of Real Estate	2,013.00	—0—	6.00	—0—	—0—	2,019.00
Rent of Equipment	164.31	1,505.96	—0—	—0—	43,019.02	44,689.29
Insurance, Surety and Fidelity Bonds	530.39	212.97	216.66	108.70	291.80	1,360.52
Other Operating Services and Expenses	253.62	21.46	152.74	921.38	259.72	1,608.92
EQUIPMENT	2,963.38	1,877.49	2,651.44	2,105.98	—0—	9,598.29
Motor Vehicles	—0—	—0—	1,518.59	1,724.28	—0—	3,242.87
Other Equipment and Machinery	2,963.38	1,877.49	1,132.85	381.70	—0—	6,355.42
OUTLAY FOR LANDS, STRUCTURES AND IMPROVEMENTS	—0—	—0—	102,477.00	—0—	—0—	102,477.00
Land	—0—	—0—	102,477.00	—0—	—0—	102,477.00
TOTALS	\$127,503.40	\$ 44,527.45	\$156,878.78	\$ 29,249.96	\$165,854.74	\$524,014.33

STATEMENT OF RECEIPTS AND EXPENDITURES—ACT NO. 330—SESSION OF 1957

Calendar Year	Resident Licenses Sold	Non- Resident Licenses Sold	Minimum To Be Expended	Expenditures	Over (*) Or Under (—) Minimum	Cumulative Over (*) Or Under (—)
1957 (9-1 to 12-31)	4,444	165	\$ 4,609.00	\$142,467.00	\$137,858.00*	\$137,858.00*
1958	621,692	16,294	637,986.00	452,715.09	185,270.91—	47,412.91—
1959	603,546	16,438	619,984.00	524,014.33	95,969.67—	143,382.58—

Act No. 330 and this overexpenditure, with respect to Act No. 283, could be rightfully applied to Act No. 330 because the overexpenditure covered activities identical to those stipulated in Act No. 330. However, it is the desire of the Commission to report expenditures in compliance with Act No. 330 beginning with the inception of the Act on September 1, 1957. This will be borne out in future reports.

CHARTS—Pie charts covering all receipts and expenditures are presented to show the complete picture of the Fish Commission's operations in graphic form.

(a) The word "expenditure," as used here, refers to amounts vouchered for payment and does not include commitments and encumbrances on the books as of May 31, 1960.

AUDIT OF THE FUND

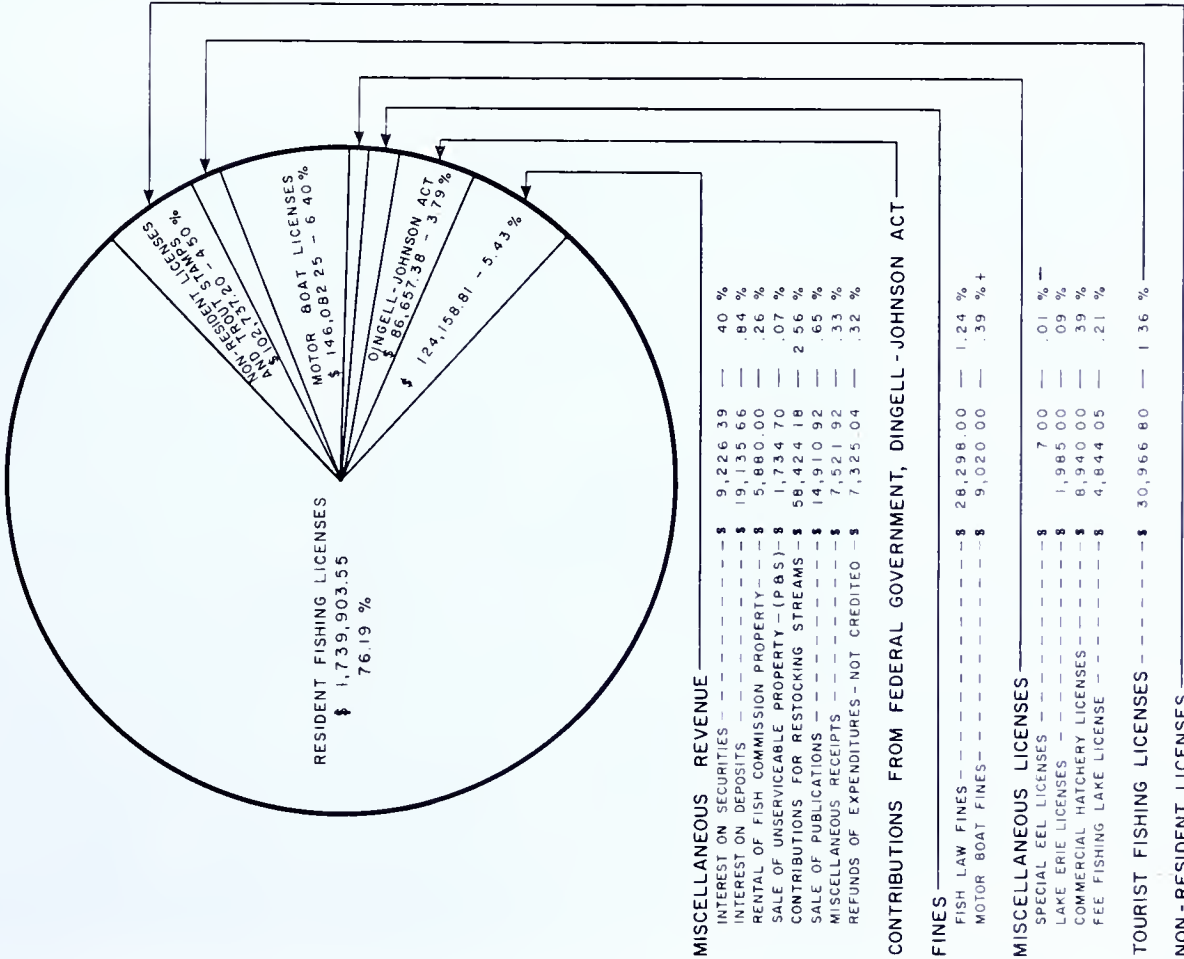
Under the provisions of Article IV, Section 402 of the Fiscal Code, the Auditor General is required to audit the accounts and affairs of all State Departments, Boards and Commissions at least once each year. The last formal audit of the Commission covered the fiscal year ended May

31, 1959, and we are pleased to report all accounts were found to be in order. The audit for the fiscal year ending May 31, 1959, is being conducted as this report is in the process of preparation.

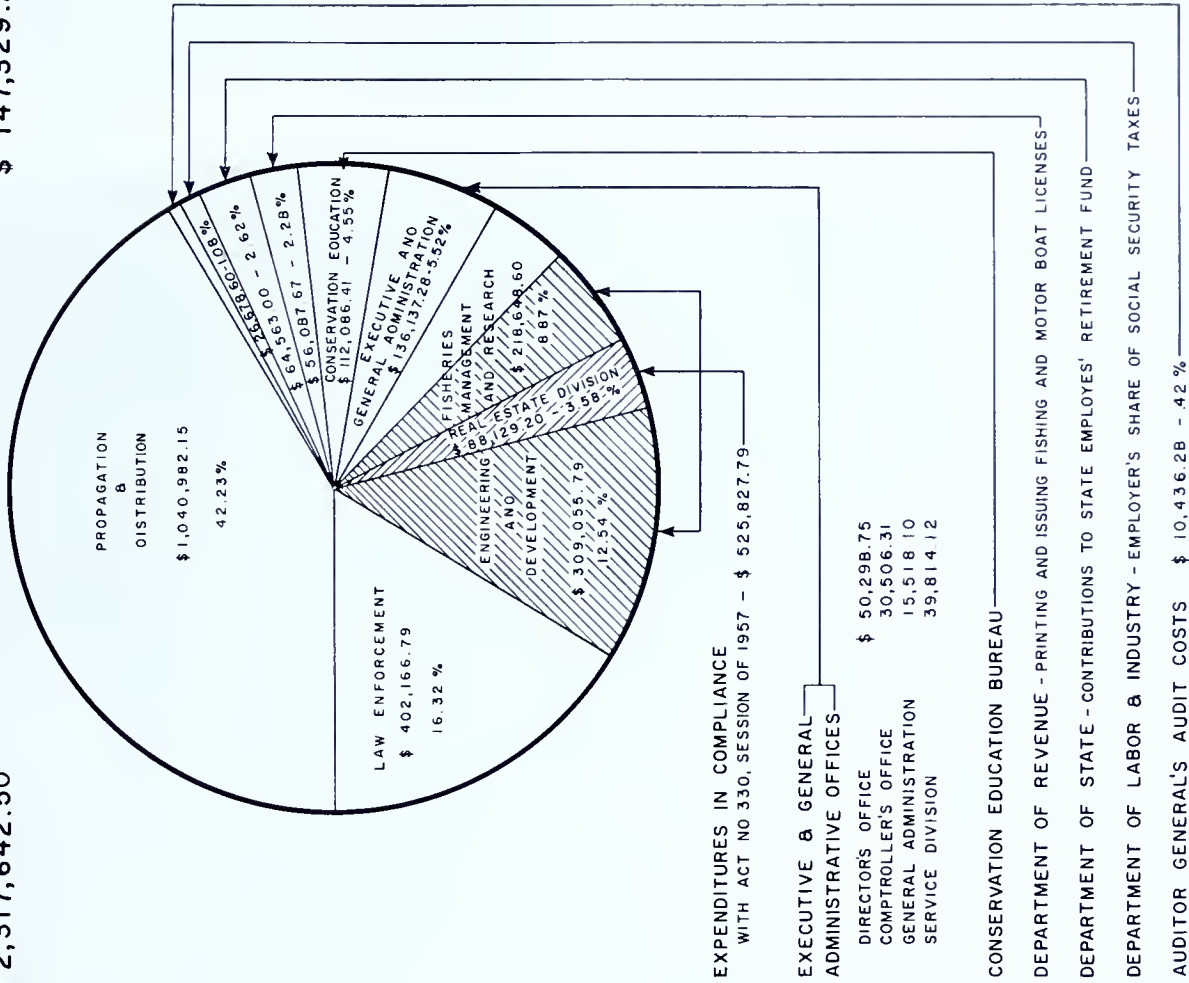
Additional safeguards and controls imposed upon all Departments, Boards and Commissions are:

1. The mandatory requirement that all invoices, payrolls and other operating expenses must be audited by the Auditor General and State Treasury Departments before payment.
2. The mandatory reporting daily, of all financial transactions to the Governor's Bureau of Accounts and Controls.
3. The control exercised by the Governor's Budget Secretary over all requests for quarterly budget allotments and all other budget matters.
4. The periodic verification of Departmental Accounts with those maintained by the Auditor General's Department, the State Treasury and the Governor's Bureau of Accounts and Controls.

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH COMMISSION
SOURCES OF REVENUE TO THE FISH FUND
RECEIPTS FOR THE FISCAL YEAR JUNE 1, 1959 TO MAY 31, 1960
TOTAL \$ 2,283,600.04



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH COMMISSION
HOW THE FISHERMAN'S DOLLAR WAS SPENT
EXPENDITURES FOR THE FISCAL YEAR JUNE 1, 1959 TO MAY 31, 1960
TOTAL \$ 2,464,971.77
SPENT BY FISH COMMISSION \$ 2,317,642.50
SPENT BY OTHER STATE DEPTS. \$ 147,329.27



the kids and the turtle

Photo Story
By DON SHINER

Commonplace scenes and commonplace creatures in the outdoors are often taken for granted by many mature anglers. But, introduce children to nature's gifts and the results can be gratifying and enlightening to both youngsters and grown-ups alike.

Take for example the tiny Painted turtle I recently found bathing on a sun drenched log while fishing in a nearby lake. I knew immediately my two boys—Donnie and Charles—would have a day of fun and excitement with this little fella! Easing the boat closer to the log, I picked up the silver-dollar-size turtle and dropped it in my tackle box. This tiny new playmate fascinated my kids and the youngsters of the neighborhood for hours. Mr. Turtle didn't object to being hoisted about nor turned over on his back. It takes such little things to delight children!



1

2



4

5

SORRY, FOLKS . . . but we've lost the sound portion to your pictures.
PLEASE STAND BY . . . meanwhile, write your own scripts in spaces provided, send them to the editor and we'll pick out the best for reproducing in the **PENNSYLVANIA ANGLER**.



3



6

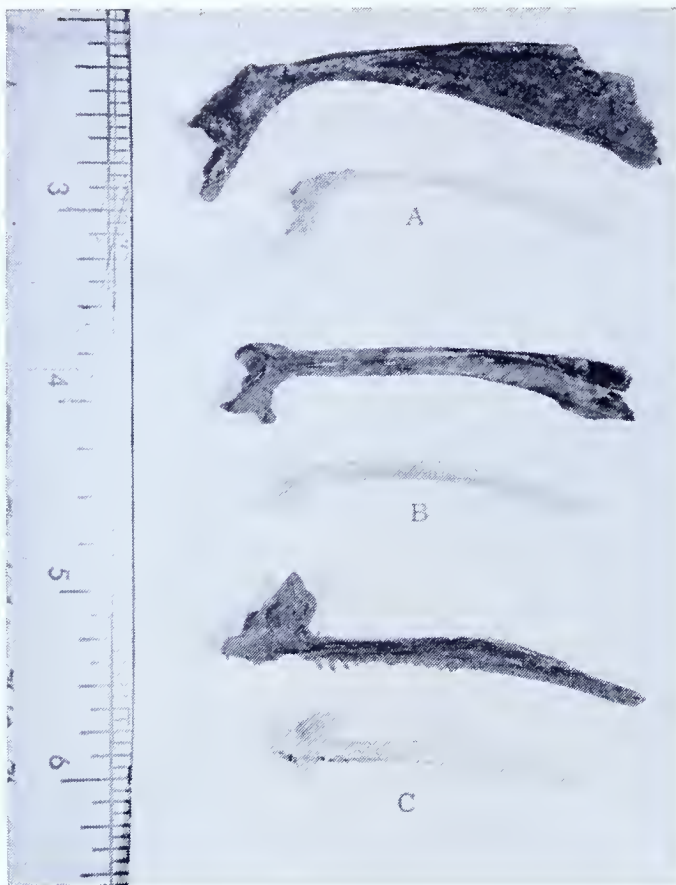


Figure 1.
A. Bass maxillae—Striped bass (upper), Large-mouthed bass (lower).
B. Wall-eyed pike maxillae, modern (lower), 17th century (upper).
C. Wall-eyed pike premaxillae, modern (lower), 17th century (upper).

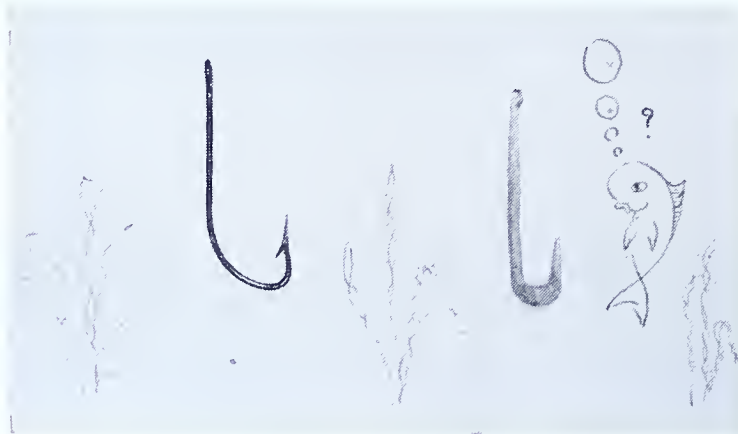


Figure 2.
Left: modern fishhook. **Right:** 2" bone fishhook, Susquehannock Indians, 17th Century, Lancaster County, Pennsylvania.

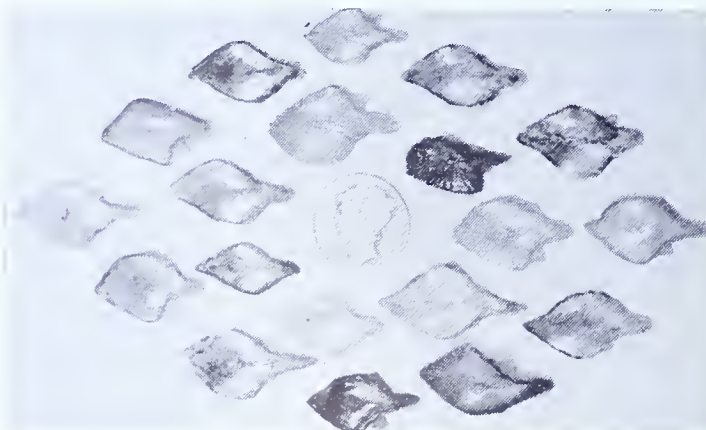


Figure 3.
 Body scales of the long-nosed gar excavated from a 17th Century Susquehannock Indian village site, Lancaster County, Pennsylvania.

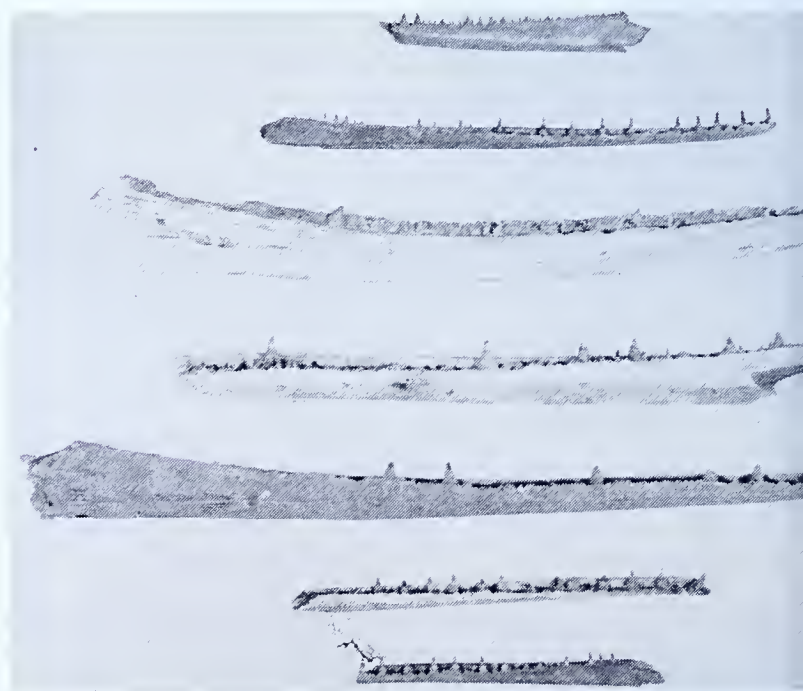


Figure 4.
 Mandibles of the long-nosed gar, 17th Century, Lancaster County, Pennsylvania

■ A garbage dump, fertile with old fish heads, corn cobs and bones, strewn with broken pots, ashes and clamshells, with a dead dog or two thrown in for good measure, hardly seems like the proper site for the scientific investigation of anything. But this particular trash heap, on the east bank of the Susquehanna River near Washington Boro in Lancaster County, is some 350 years of age. The bones are not those of sheep or cow, but of deer and elk and bear. The corneops, preserved by accidental charring, are no larger than your little finger. And the broken crockery are unglazed fragments of Indian "pots and pans," some with an original capacity of well over five gallons, crude by our standards and quaintly ornamented, yet made with such grace of form and such an obvious mastery of technique that the expression, "rude savage," takes on a different meaning.

This dump, which must have smelled quite nicely at about the time Capt. John Smith was exploring up Chesapeake Bay, marks the site of a once flourishing Indian village—the historic Susquehannocks. Smith tells of meeting Susquehannock warriors, perhaps from this same village, and their name will flow forever through the heart of Pennsylvania borne by the river on whose shores they once lived. Bits of brass serap, kettles, brass beads, knives, ax cuts on the bones prove that Susquehannock warriors enjoyed a lively trade with early Europeans, but quartz arrowheads deeply imbedded here and there in deer bone, and the high quality of the native pottery which had not yet begun to deteriorate in the face of competition with the superior European article, show that the old ways were still followed. It has been dated rather precisely, on the basis of the types of trade goods and the native pot-

DUMP ROOTING

By DR. JOHN E. GUILDAY

Assistant Curator Comparative Anatomy
Carnegie Museum, Pittsburgh

Photographs by J. L. Leppca

tery styles, at 1600 A.D. to 1625 A.D. by John Witthoft, Director of the State Museum, the archaeologist in charge of the original excavation of the site. The garbage dump ("cultural debris" is the genteel euphemism preferred by most archaeologists, but garbage it remains no matter who dumps it!) accumulated, to a depth of nine feet in places in the space of about twenty-five years. The town was burned and abandoned before the area was settled by colonists from Europe.

Now let's attack this scientific garbage, happily rendered inoffensive by the passage of so many years, and see what it can tell us of early Penn's Woods, when dams and pollution, lumbering and erosion were still a century or so in the future. There are some 58,000 bones to identify. Since the Indians deliberately smashed the limb bones of the larger animals to extract that *piece de resistance*, the marrow, over half of the bones will be unidentifiable slivers. Of the 23,000 that can be identified, 17,000 will be white-tailed deer, over 1,000 elk and an additional thousand black bear. About 1,200 will be bird bones, wild

turkey, ruffed grouse, Canada goose, snow goose, ducks, grebes, loon, raven, crow, whistling and trumpeter swans, sandhill crane, great blue heron, turkey vulture, hawks, owls, bald eagle, passenger pigeon, curlew. And 800 will be fish.

Let's examine the fish bones a little more carefully. Fish have far more bones than do other vertebrates (this is news?). But most of these are of little value in identification. Shad and gar have quite distinctive vertebræ that can be recognized on sight, but the backbones of most other fish are pretty much alike. Fortunately the bones of the skull and the fin spines, in many cases, do vary. And, with the aid of modern skeletons for comparison, many of the fish bones picked up in prehistoric or early historical archaeological sites can be identified.

As an example fig. 1a., shows two bass maxillæ (the maxillæ are the upper jaw elements that form the corners of the mouth). The smaller, lower example is from a modern 1½ lb. large-mouth bass, the larger, discolored bone is from a striped bass, *Morone saxatilis*, excavated from our aforementioned garbage heap, and, presumably was caught in the opening years of the 17th century by a Susquehannock Indian. Perhaps, if taken on hook and line, it fought the 2" barbless bone hook in figure 2. manufactured from the toebone of a deer and found in the same excavation.

Figure 1b. shows a modern (lower) and a 17th century (upper) maxilla of a walleye, *Stizostedion vitreum*. Fig. 1 c., illustrates another jaw element, the premaxilla of modern and 17th century walleye. These walleye bones came as a distinct surprise as heretofore this fish was thought to have been introduced into the Susquehanna by the white man from New York State according to Mr. Gordon L. Tremblay, Chief aquatic biologist of the state fish commission. Walleye remains have since turned up, in undoubted prehistoric association, this summer at the Sheep Rock Shelter on the Raystown Branch of the Juniata, an Indian site being excavated by the State Museum. The fish was apparently a widely distributed native species in the Susquehanna system.

Over 75% of the fish bones that could be identified from the Susquehannock site were of one species or another of sucker, mostly large Redhorse (*Moxotoma* sp.). But the next most common species was a fish that you, or I, would probably turn our nose up at, but at which the Indian apparently did not—the Long-nosed Gar, *Lepisosteus osseus*. Their characteristic diamond-shaped scales (fig. 3) and business like jawbones (fig. 4) are unmistakable evidence that one man's food is another man's poison. (I wonder what the Susquehannocks would have thought of Limburger cheese?).

Shad and eel, bullfrogs, map turtles, snapping turtles, musk turtles, striped bass, otter, muskrats, beaver, mink, dry broken bones enable us to piece together a little of the past history of the mightiest of the rivers of Pennsylvania, the Susquehanna.



Figure 5.
Fish bones excavated from the Sheep Rock Shelter, a prehistoric Indian site on the Raystown Branch of the Juniata, Huntingdon County

A., C. gill arches, Fallfish

B. opercle, Shad

D. lower jaws, Eel



PINE CREEK in Tioga county. County has a good bass population but growth is slow.

■ "He is plucky, game, brave and unyielding to the last when hooked. He has the arrowy rush of the trout and the bold leap of the salmon, while he has a system of fighting tactics, peculiarly his own . . . I consider him *inch for inch* and *pound for pound*, the gamest fish that swims." This quotation, although written by Dr. James Henshall in 1881, is still the most descriptive and applicable analysis of the smallmouth bass in 1960.

All of the large, clean river systems in Pennsylvania produce excellent smallmouth bass fishing. It has been said that the North Branch of the Susquehanna, above Wilkes-Barre, is the finest smallmouth bass fishing in eastern United States. The Allegheny and Delaware Rivers are not far behind and some locations may be just as good.

"*Inch for inch*" and "*pound for pound*" is the main interest of this narrative. How long does it take the smallmouth bass in Pennsylvania to put on the inches and pounds necessary to produce some of the finest fishing in the country? In marginal bass streams such as Pine Creek, noted for its famous Grand Canyon of Pennsylvania, it takes about 4.5 years for bass to reach the legal limit of

The Age and Growth of the SMALLMOUTH BASS

in Pennsylvania

PART II

By

KEEN BUSS and JACK MILLER

Fishery Biologists

Pennsylvania Fish Commission

nine inches. Since nature takes such a high toll on each year class through competition, floods, drought, disease and predation, few are left to become legal fish. In fact, one study revealed that 93 percent of the bass taken in Pine Creek were less than four years old and less than nine inches long. This figure does not include the vast numbers of the young of the year less than one year old.

On the other hand, the smallmouth bass in the North Branch of the Susquehanna almost all reach legal size at 2.5 years of age and a good proportion attain legal size at 1.5 years of age. Some attain eleven inches in a 1.5 year period. In fact, so many fish grow past the nine inch limit in the second summer (or 1½ years of age) that many are taken legally by anglers. This fast growth in part accounts for the high fishing returns. Nature has not had the time to take her toll.

Table I illustrates the differences between a good bass stream, the North Branch of the Susquehanna, and a poor bass stream in terms of legal bass taken, Pine Creek. The ages listed as I plus (+) mean that the fish has lived through one complete year plus a portion of the next summer when it was taken. Actually a 1 + taken in October would have almost two years of growth since most of the growing is done in the warm months.

Table II is set up differently. The sizes were back calculated (see October 1960 ANGLER, Series I) to year marks and indicate the growth to full years. Notice the differences in growth between Upper Woods Pond, a poor smallmouth bass lake, and Lake Idlewild where the smallmouth bass have a comparatively fast growth. The rate of growth obviously helps to determine the angling success in many instances.

If you're interested in the relationship between the length and weight of smallmouth bass, approximations can be found in the chart below. Notice that it takes about a twelve inch fish to make a pound and a 22 incher to make five pounds.

<i>Length in Inches</i>	<i>Weight in Ounces</i>
6	2.0
8	4.0
9	6.5
10	8.0
11	11.5
12	15.5
13	20.4
14	24.0
15	30.0
16	35.0
17	41.5
18	46.5
19	58.5
20	66.5
22	86.0

Although we agree with Dr. Henshall's "inch for inch and pound for pound," we would like to facetiously add "early to feed, early to size, makes a bass healthy, stealthy and productive."



SMALLMOUTH BASS . . . the faster he grows, the better the fishing

TABLE I
Total Length of Smallmouth Bass When Taken

<i>Location of Water Area</i>	<i>Number of Specimens</i>	AGE						
		I+	II+	III+	IV+	V+	VI+	VII+
Pine Creek	117	5.9	7.2	8.6	9.3	11.3	12.2	14.4
North Branch Susquehanna River	92*	9.6	10.0	11.1	12.6	15.5	16.8	17.5

* Taken by anglers

TABLE II
Average Calculated Total Length at Each Annulus for
Smallmouth Bass in Four Pennsylvania Lakes

<i>Lake and County</i>	<i>Number of Specimens</i>	AGE									
		I	II	III	IV	V	VI	VII	VIII	IX	X
Lake Clarke— Susquehanna River (Safe Harbor Dam) York County	123	3.2	7.8	10.2	12.1	13.2					
Lake Winola Wyoming County	9	2.1	5.8	8.4	11.7						
Lake Idlewild Susquehanna County	36	2.4	6.0	9.1	12.1	14.3	16.2	18.0	19.4	20.0	20.6
Upper Woods Pond Wayne County	21	2.2	4.4	7.2	10.3	12.3	14.3				

the joys of Outdoor Writing

The following is a presentation made by Bill Walsh, outdoor editor of the Erie Times-News, at a dinner meeting of the Pennsylvania Outdoor Writers Association. Because it points out the foibles of both writers and readers of outdoor columns and because it has a moral not too difficult to unearth, the editor of the ANGLER immediately arranged for its publication here.

■ Now, this dissertation is aimed at and directed to that woebegone soul who has stirred in the night and wakened to the telephone—jangling merrily away a mile-and-a-half downstairs or in some other distant corner of the house. After bumping knees and bare toes on all the chairs in the way and possibly incurring a fracture or two in encounters with roller skates and toy trucks, you pick up the receiver and mumble, “Hello!”

At the other end of the line you hear the music of a juke-box, the murmur of happy voices, glasses clinking, and other assorted tavern-atmosphere noises. You know that someone—somewhere—at least is having a good time. Then comes a loud, authoritative, and extremely confident voice in your ear:

“Shay! Are you the &% #***!! who writes that huntin’ and fishin’ column in the newspaper?”

“Yes, I am,” you reply, propping yourself against the wall—not sure whether you’re awake or merely asleep and dreaming.

“Well I wanna tell you shumpin’, buddy,” rasps the voice. “How much is that goddamn Game Commishun payin’ you to put out all that crap about the doe season? I wanna tell YOU buddy ol’ buddy boy that I been huntin’ for thirty years and lasht year wasthewursht year I ever seen yet. Why I didden even get one deer out of the shix I shot at. An’ my buddy—you know George Mountain-hopper an’ you know he aint wun of them goddamn road hunters like I heard YOU are, ol’ buddy boy—why he didden even see a track.”

Somewhere in your slowly returning consciousness you remember reading that George Mountainhopper was laid up in the hospital during the last deer season—but you let it pass. The voice goes on:

“An’ where’nell do you get all them trumped up figgers about a hundred (correct) thousan’ deer bein’ killed—Alashka? W’y there aint that many deer left in Pennshylvania and YOU know it.

“An’ another thing—Shay! You still there?”

“Yes,” you reply.

“About them rabbitseh. When’s the Game Commishun gonna start shtoe kin’ rabbits? You know’ swell ash I do that if they would shtart shtoe kin’ rabbitseh and let loose of some of that chunk of our hunters’ dough they’re playin’ aroun’ with down there in Harrishburg and buy some of them cute little bunnyesh that I luv to shoot four of evvery

day we’d soon be up to our—Well, thersh a lady shtandin’ here at the bar whosh leanin’ over my shoulder and I can’t use the langwidge I’d like to use in this here conversay-shun with YOU—ol’ buddy boy—what with all that erapp you’re puttin’ in the paper all the time—you know what I mean ol’ buddy buddy boy. Well—shay! You still there?”

“Yes,” you say—wondering why you’re still there.

“Well—you jusht hang onto that phone and I’LL give you shumpin’ to write about that’s the shtraight dope. Shay! Do you ever go huntin’ and fishin’?”

“Every chance I get,” you tell him.

“Well—ha, ha—ol’ buddy boy—I wanna exshtend to you my shinshere shympathies to YOU for not gettin’ mutseh oppitunity. I don’t think you ever even seen a rabbit—let alone shoot one.

“An’ lemme tell you shumpin’ else. Nexht time you get down to Harrishburg—altho I dunno why you’d ever wanna get near the plashe—you take a look in that goddamn Fish Commishun offish and see if you kin find that 4-inch ruler they bin ushin’ to measure all those so-called 8-inch trout they wuz asposed to shtoe k this year. Why I wuz fishin’ in in one of the besht streams I know about jusht sixh minnits after the stoekin’ truck dumped ’em in—and you’d have to sew two trout together to get a legal sized one. An’ I didden have any thread.

“An’ shumpin’ else, too! You give those guys down there holy heek fer me for raisin’ the eosht of that exhpensive fishin’ license. Itseh gettin’ so a feller hardly has enough money left to buy one.

“Why lasht year—jusht to give you an example frin-stance—Shay! You still there?”

“Uh-huh,” you drone. This guy is probably a faithful, if doubtful, reader when sober and between you, your wife, and your mother that makes four of you so you remain polite despite the abuse.

“Well, Ash I wuz shayin’—lemme tell YOU, ol’ buddy boy—that lasht year my fishin’ tackle got losht when I wuz out in the lake and my fourteen foot boat got turned over. We saved the boat but we losht a seven hundred (correct dollar sixty horse motor an’ evvery wun of the five guys that wuz with me lost all their gear, too. I tho’t corks wuz supposed to float but the bottles went down anyway. By the time I bought a new motor and two hundred dollars wurth of rods’n’reels’notherjunk I didden barely have enough lefft to pay for a fishin’ license. Itseh a

dirty crime the way they soak you for that license nowa-days. I hadda borrow it from my wife. An' imagine her tellin' ME she wuz only doin' it to get rid of me on week-ends after I gone and done blesht her with twelve kids.

"Well, anyways—ol' buddy boy—you outdoor writers is all alike—sittin' in front of a tripewriter in a comftible chair, copyin' stuff outa booksh an' makin up the rest. Shay! You still there?"

"Yes."

"You aint sayin' mutsch!"

"I'd rather listen."

"Well thatsch good, becuz I wanna tell YOU about the bounty on the fox—them dirty vermin fox that eats up all my nice cute little bunnies that I like to shoot four of evvery day I am out. They otta make that bounty twenty-five or a hunderd dollars apiece on them fox and then you'd see the rabbits and the pheasants shticking their little heads up all over the plashe. Boy! Huntin' here ain't like it wuz in the good ol' daze. I git more dishgusted evvery year!"

So at this point you interrupt your talkative tout and say, "Listen. If you don't like to hunt and fish in Pennsylvania, why don't you pack up and move to some other state?"

The voice at the other end is silent—for the first time since you picked up the receiver. Apparently, its owner is occupied with the slow and painful process of thinking. Then comes the reply:

"What! Leave good ol' Pennshylvania! An' give up all that good huntin' and fishin'?"

Click!

FROST TO-NIGHT . . .

*Apple-green west and an orange bar;
And the crystal eye of a lone, one star . . .
And, "Child, take the shears and cut what you will,
Frost tonight—so clear and dead-still."*

—EDITH M. THOMAS

Brother Tree:

*Why do you reach and reach?
do you dream some day to touch the sky?*

Brother Stream:

*Why do you run and run?
do you dream some day to fill the sea?*

—KREYMBORG

Dearer to him than wild cataracts or Alpine glens are the still, hidden streams . . . the long, grassy shadow paved with yellow gravel, where he wades up between low walls of fern-fringed rock, between nut, and oak, and alder, to the low bar over which the stream comes swirling and dimpling, as the water-ousel flits piping before him, and the murmur of the ring-dove comes soft and sleepy through the wood. There, as he wades, he sees a hundred sights and hears a hundred tones, which are hidden from the traveller on the dusty highway above. The traveller fancies he has seen the country. So he has; the outside of it at least. But the angler only sees the inside. The angler only is brought close, face to face with the flower, and bird, and insect life of the rich river banks, the only part of the landscape where the hand of man has never interfered, and the only part in general which never feels the drought of summer; the trees planted by the waterside, whose leaf shall not wither.

—Charles Kingsley





FEDERATION HONORS H. R. STACKHOUSE

The Pennsylvania Federation of Sportsman's Clubs honored H. R. Stackhouse, Administrative Secretary, Pennsylvania Fish Commission, at a dinner held recently in Harrisburg. Mr. Stackhouse was the recipient of a traveling bag and other useful gifts. On June 1 last, "Stackie" as he is affectionately known to his many friends, completed 43 years of continuous service with the Pennsylvania Fish Commission.

In 1923, nearly 37 years ago, he was named administrative secretary of the commission, a post he has held continuously since. In 1954 he was given the Gold Medal Award of the Pennsylvania Fish and Game Protective Association as the outstanding sportsman of the state. He has served under every executive Director of the Commission except one. At the beginning of the year 1960 he was appointed Acting Executive Director when William Voigt, Jr. resigned. He was urged by friends to accept the "top" post but declined. Mr. Stackhouse expects to retire at the end of this year. The *Pennsylvania Angler* notes the following brief interview made recently:



"No, I don't think you could have tempted me into taking a job at more money . . . I was always happy to be right where I was. . . ."



"Sure, you have to have a sense of humor to do anything well . . . the main thing is to enjoy your work and do the best you can . . . nobody can ask more. . . ."



"I guess you could call it that . . . I never thought of the job as work . . . I had too much fun doing the things I liked, . . . meeting all kinds of good folks . . . that was what I liked. . . ."



"Oh, I don't know about that . . . I mighta been a pretty good fisherman if I would have had time . . . in the old days. . . ."

Research Agencies Study Lake Erie Waters

On August 30 and 31 research agencies representing the states of Ohio and Pennsylvania, the Province of Ontario, Bureau of Commercial Fisheries (U.S. Fish and Wildlife Service), the University of Toronto and Ohio State University made a simultaneous lake wide study of physical, chemical and biological conditions in Lake Erie.

Seven agencies of the United States and Canada co-operated in the two day study. Eleven research boats were used. Participating in the study was the new research and management vessel, the "Perca." Aboard were Alfred Larsen, fishery biologist, Daniel Allen, biologist's assistant and George Lohrer, boat captain.

A similar study conducted a year ago found critical oxygen levels in bottom waters over most of a 600 square mile area.

Research agencies are in agreement that additional information is needed to determine the seriousness and causes of oxygen shortages in the lake during late summer.

Between Lorain, Ohio and Dunkirk, New York, four boats went north at 40 mile intervals to the Canadian shore. The courses were shifted 20 miles westward for the return trip to the lake's south shore. The "Perca" covered an area from Erie to Port Dover, Ontario and return. Three other boats between Lorain, Ohio and Toledo, Ohio ran north at 20 mile intervals, then moved 10 miles westward for the return trip.

Water samples and other data were obtained at the surface, midwater and bottom by each boat at 10 mile intervals for analysis. The "Perca" collected data at 15 stations in its assigned area.

Results of the joint study will be published as soon as the data is evaluated.

Fisherman's Luck

In the little seaside New England town where we have often spent part of the summer, one of the most popular forms of recreation is fishing. Every day dozens of boats go out, from humble rowboats powered by outboard motors to thirty-thousand-dollar sport cruisers, all full of eager fishermen.

For ten days last summer the fish did not bite. Every afternoon we saw dejected men walking gloomily away from their boats, arguing about different theories of bait, tides, weather, and all the other variables which can affect fishing.

But there was one man who was different. He had been out fishing too, and like the rest of us he had not caught anything. But he had a good time even so. He enjoys boating for its own sake. He loves the motion of the waves, the fresh breeze across the bay, the marvelous effects of cloud, sky, and water. Fish or no fish, he has a good time, and comes home relaxed and happy.

This man has an attitude toward life that we can all admire. Because he looks around to seek beauty and happiness, he finds them. Where other people concentrate on their disappointments, he refuses to make himself miserable because the fish don't bite, but looks further to find the cheerful aspects which experience has taught him are always there. He has discovered the secret of contentment.

To him fishing is a sport, not a game or a project of overwhelming importance. Just fishing. —Earl L. Douglass

The Fish That Wears a Nightgown . . .

Dr. Howard Elliot Winn, of the Zoology Department, University of Maryland actually saw the fish putting on a nightgown during a summer field trip to Lerner Marine Laboratory in Bimini, Bahamas.

When he first saw the gown, he thought the fish was sick, and the filmy covering around it was a consequent secretion. But after repeated observation indicated that breathing and other reactions were normal, he became persuaded that the wearing of the nightgown was normal, too.

It happens only in the dark.

Brief flashes of light reveal the transparent folds of the garment, do not disturb the fish, but if light remains for any extended period of time the fish apparently thinks it is time to wake up. Whereupon it swims off, leaving the nightgown hanging in the water.

Just how the nightgown is made is a mystery. Like an apparition, it seems to appear as a variation of the mucous secreting system that most fishes have in their skins. Anyhow, the spinning of the "cloth" begins at the fish's mouth and slowly extends to the rear. One garment takes about a half hour to make. The finished gown includes a flap at the front to let water in, another flap at the rear to carry water and accompanying wastes away.

The fish that behaves in this human manner is called the parrot-fish, one of the gaudiest residents of the sea. It spins the nightgown while leaning against coral or hiding inside conch shells. Experiments have proved the gelatinous feel of the garment discourages the appetite of the moray eel. It is assumed the fish dons the nightie to hold off, rather than to invite company.



NEW DIVISION CHIEF

Veteran Outdoor Writer Russell S. Orr Named Chief of Fish Commission's Conservation-Education Division

Russell S. Orr, 48, a veteran outdoors editor for 30 years, today was named Chief of Conservation Education and Public Relations for the Pennsylvania Fish Commission.

Announcement of Orr's appointment was made by Albert M. Day, new executive director of the state fish agency.

Orr, former executive director of the League of Maryland Sportsmen, resigned his post as outdoors editor of the Sunday Patriot-News to join the state agency.

The executive director said Orr's appointment was made by the eight-member State Fish Commission in order to develop improved public relations and liaison with the state's more than 650,000 licensed anglers.

Much of his work will be to advise the sportsmen of the new developments within the recreational agency.

Orr, married to the former Doris Areher, is a native of Zanesville, Ohio. He has two sons, Gary, 20, and Jon, 12.

Orr attended Dennison University in Ohio and first entered the outdoors writing field with the Zanesville Signal. In 1944, he joined the Dayton, Ohio Journal-Herald and directed the outdoors program there sponsored by Miami Valley Outdoors. His work with Miami Valley Outdoors earned the sponsoring newspaper the National award for contributions to conservation by the Outdoor Writers Association of America.

In 1948, Orr became executive director of the League of Maryland Sportsmen, which boasted an accredited membership of more than 10,000.

For the past two years, Orr has been outdoors editor of the Patriot-News in Harrisburg.

The new public relations chief is an ardent fisherman and hunter and has fished in most of the states and in Canada. He is an expert bait easter.

Day said Orr will be in direct contact with press and public in an honest effort by the Commission to keep all media properly advised of Fish Commission actions and plans and to bring about a better understanding of the problems of the anglers and the men who control the million dollar sport in the Commonwealth.



FIELD CONFERENCE from the podium . . . 100 persons from Commission plus guests attended the annual meetings Oct. 3, 4, 5 at Pleasant Gap.

Fish Commission Ends Field Conference At Pleasant Gap

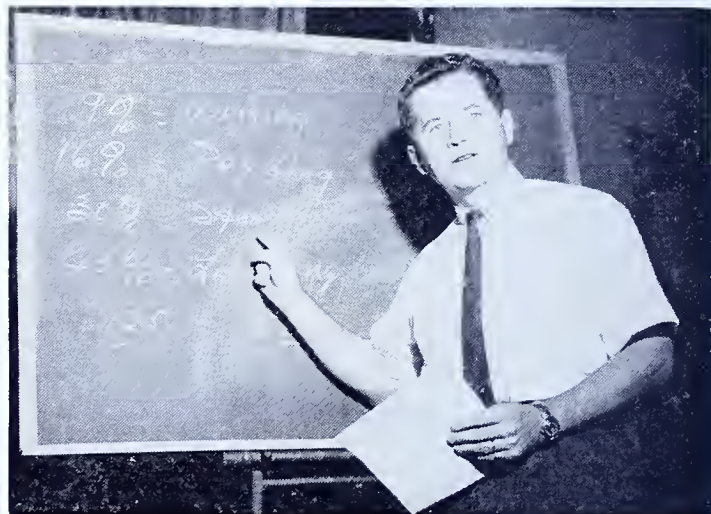
About 100 Fish Commission personnel along with guests, instructors, and speakers ended three-day sessions at Grange Hall, Pleasant Gap, Pa. October 4.

Hon. Wallace C. Dean, president of the Fish Commission, welcomed the assembly while W. W. Britton, Chief Enforcement Officer, introduced the personnel. Completing the agenda and speakers were: Albert M. Day, Executive Director, Pennsylvania Fish Commission who spoke on *Commission Policies*; Cyril G. Regan, Chief, Real Estate Division, spoke on *Commission Properties and Easements*; *Summer Uniforms* were discussed by W. W. Britton; Dr. Albert S. Hazzard, Asst. Executive Director reviewed the 1960 *Trout Stocking Program*; *Budgets and Purchases* were explained by Paul J. Sauer, Comptroller of the Commission; Dewey Sorenson, Superintendent of Hatcheries presented *Better Planning for Fish Displays*; Thomas O'Hara, Chief Engineer of the Commission related the *Fiscal Year Accomplishments*; Arthur Bradford, Asst. Chief Aquatic Biologist explored *Preliminary Experiments in Inducing Fish to Spawn* and Keen Buss, Fishery Biologist, told of *Early Results on Minkellunge Research*.

Dr. Harold J. O'Brien asked the question . . . "Why Don't They Listen" and John Sullivan reviewed the *New Fish Laws* after which the warden force advanced *Corrections Needed in the Law* and *Suggestions for New Motorboat Laws*. W. W. Britton spoke on *Arrests vs. Warnings*, then a general discussion covered a myriad of *Individual Problems*.

The final day's activities were headlined with a 30 shot-course Pistol Shoot.

Fish Commissioners in attendance were: Wallace C. Dean; Joseph M. Critchfield; Maynard Bogart and Albert R. Hinkle, Jr.



DR. HAROLD J. O'BRIEN asks . . . "Why Don't They Listen" as he lectures at Fish Commission Field Conference.

The Last Days . . .

*The russet leaves of the sycamore
Lie at last on the valley floor—
By the autumn wind swept to and fro
Like ghosts in a tale of long ago.
Shallow and clear the Carmel glides
Where the willows droop on its vine-walled sides.*

*The bracken rust is red on the hill;
The pines stand brooding, somber and still;
Gray are the cliffs, and the waters gray,
Where the seagulls dip into the sea-born spray.
Sad November, lady of rain,
Sends the goose-wedge over again.*

*Wilder now, for the verdure's birth,
Falls the sunlight over the earth;
Kildees call from the fields where now
The banding blackbirds follow the plow;
Rustling poplar and brittle weed
Whisper low to the river-reed.*

*Days departing linger and sigh:
Stars come soon to the quiet sky;
Buried voices, intimate, strange,
Cry to body and soul of change;
Beauty, eternal, fugitive,
Seeks the home that we cannot give.*

—GEORGE STERLING

Neptune the Menace

A man and his wife were fishing Conneaut Lake near Wolf Island when they noticed a small float moving toward their boat. The Missus threw her line in the water and exclaimed . . . "I threw my line on something, see what it is." Her husband was just in time to see a skin diver pass directly under the boat. Needless to say the fish stopped biting and two disgruntled fishermen wrote an indignant letter to the Regional Field office. Anyone have any suggestions as to how to cope with this problem?

—S. Carlyle Sheldon, Regional Warden Supervisor

Paging St. Patrick!

I recently talked to Mr. Byrd Kemp of Fenelton, Pa., who has a hobby of catching Massaugua rattlesnakes. He said he had a very bad month in June capturing only 27 of the critters, wanted to know if the Fish Commission couldn't get some to stock.

—Clifton Iman, Warden, Butler, Beaver Counties

Nuttin' sweeter than Velveeta . . .

It was a secret but like all secrets it sprung a leak. It's the mysterious way of catching trout in Lake Pleasant. An angler, Herb Briggs by name, let it slip that he was getting good catches on velveeta cheese. After this was sprung you couldn't find a good spot left along the lake, everyone taking good rainbow trout . . . on velveeta!

—Norman Ely, Warden, Erie County

Good spawning for Muskies?

The field team from Tionesta Hatchery, while searching for minnows for feeding young muskellunge, were surprised. Several times while using their seines in the Allegheny river they caught an abundance of muskellunge fry. The length of the fingerlings indicated a good spawning year in '60.

—Kenneth Corey, Warden, Warren County

Dual purpose license holder

Many trout fishermen are using their hunting license holders for a dual purpose, both hunting and fishing license, which they place on the back of their fishing vests. It is a big time saver for the angler as well as for the warden, in checking licenses.

—John I. Buck, District Supervisor

Kentucky Trout

I came upon a nice family of 4 fishing the Clarion river recently. In my conversation with them I learned they had moved to Erie from Kentucky three years ago. All enjoyed fishing in Pennsylvania immensely and declared the trout fishing was fine. Since they were fishing the Clarion I was curious and looked at their string of fish. Said the boys . . . "those are the nice trout we've been catching!" Both Ed Eckert of Ridgway, who was with me, and I both grinned. I told the family I didn't want to disappoint them but they had been catching just plain old "chubs." Everybody got a big laugh out of it, I gave them a pamphlet and information to guide them to a real good trout stream nearby.

—Warden Bernard Ambrose, Elk County

A lump in his throat . . .

Special Fish Warden Herman Wiedenheft at Edinboro Lake reported a 36-inch muskellunge floating on the surface of the lake recently. Out of its mouth stuck a tail. Down its throat was a big bullhead securely stuck in the epiglottis causing much discomfort to the musky. So much discomfort, in fact, the lump in the gullet killed him . . . death by strangulation.

—Warden Normal Ely, Erie County



NEW PRESIDENT Pennsylvania Outdoor Writers Association, Willard T. Johns, genial Editor, Pennsylvania Game News.

Pennsylvania Outdoor Writers Elect Will Johns President

Executive Director Albert M. Day is speaker

Willard T. (Will) Johns, the Editor of Pennsylvania Game News, was elected President of the Pennsylvania Outdoor Writers Association, at a dinner held recently in Harrisburg. He succeeds Bill Walsh of Erie, Pa. Speaker of the evening was Executive Director of the Pennsylvania Fish Commission, Albert M. Day. George W. Forrest—Editor of the PENNSYLVANIA ANGLER also spoke to the assembled statewide writers. Also elected were Roger Latham and Mark Passaro, Vice Presidents; Dave Fisher, Secretary and L. F. (Shorty) Manning, Treasurer.

Allegheny River Rescue

Special Warden Sherlock and I, on motorboat patrol of the Allegheny, were on our way down river from lock No. 3. As we approached the upper end of Twelve Mile Island, we saw two swimmers in the middle of the river. As we came nearer we saw only one, a girl, then the figure of the man came to the surface and in trouble. We threw a life cushion and rope, pulled he and the girl aboard. It was another near miss for old Davy Jones!

—Warden Sam Henderson, Westmoreland County

Now Here's a Switch . . .

Amos C. Shaner, Lansdale, Pa., caught a 24-inch carp while fishing for bass in the Schuylkill River at Black Rock Dam. The carp was taken on a No. 1 C. P. Swing lure on a spinning rod. Another gentleman paid a fine for catching and having in possession a 29-inch musky in Perkiomen Creek while fishing for carp with corn on a long shank hook.

—Warden Walter J. Burkhart, Montgomery & Phila. Counties

THE PERFECT HOLIDAY GIFT



For Christmas this year give a one year subscription to that fisherman in your life . . .

Pennsylvania Angler

Please send gift subscription to:

Name
(please print)

Address

Just clip, send one dollar (\$1.00) to
Pennsylvania Fish Commission
Harrisburg, Pennsylvania

It was very queer, especially in dark nights, when your thoughts had wandered to vast and cosmogonical themes in other spheres, to feel this faint jerk, which came to interrupt your dreams and link you to Nature again. It seems as if I might next cast my line upwards into the air, as well as downward into this element, which was scarcely more dense. Thus I caught two fishes as it were with one hook.

—from Thoreau's night fishing



FISH COMMISSION PREXY, Wallace C. Dean, right, gets an assist from Dr. Herbert L. Ittel in holding muskellunge Mr. Dean snagged at Conneaut Lake recently. Fish weighed 25 pounds, measured 44 inches, hit a red and white Dardevle spoon.

*I feel the pulse of nature beat;
The urge to wander, very sweet;
Where leaves are carpets for my feet,—
'Tis autumn, once again!*

—MILO TOWNES

CARP AND CATFISH RECIPES WANTED:

If you have a favorite way of cooking up a batch of carp or catfish bait kick in and send the Editor your recipes provided you do not have a copyright on them.

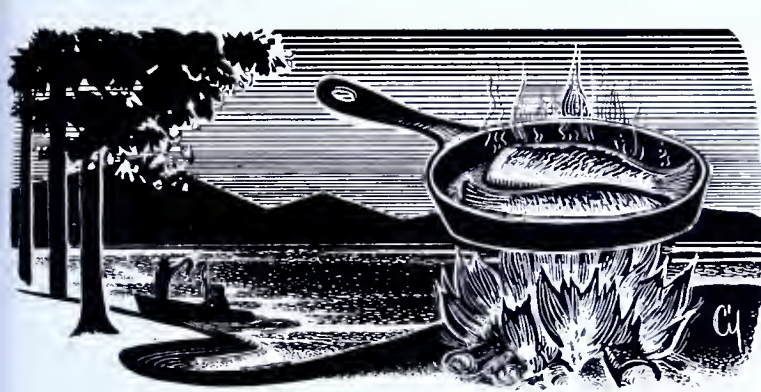
How Old Is Old?

One man's middle age is another's youth, or something like that. This is especially true among the various species of animals. While most realize giant tortoises (they look like big turtles, but really aren't) reach a pretty ripe old age (circa 150 odd years), it is a bit startling to find out swans have lived as long as 102 years. In the interest of curiosity everywhere, here is the following information:

Animals*	Years	Animals*	Years
Giant Tortoise (R)	152	Grizzly Bear (M)	32
Box Turtle (R)	123	Bison (M)	30
Swan (B)	102	Lion (M)	30
Parrot (B)	80	Bullfrog (A)	30
Elephant (M)	69	Cobra (R)	28
Great Horned Owl (B)	68	Tiger (M)	25
Alligator (R)	68	English Sparrow (B)	23
Snapping Turtle (R)	57	Elk (M)	22
Eagle (B)	55	Cottonmouth (R)	21
Giant Salamander (A)	55	Mountain Lion (M)	20
Horse (M)	50	Beaver (M)	19
Hippopotamus (M)	49	Wolf (M)	16
Chimpanzee (M)	40	Squirrel (M)	16
Toad (A)	36	Chipmunk (M)	12

* M—Mammals; B—Birds; R—Reptiles; A—Amphibians

(Note: These examples of old age have been chosen from the reliable records of zoos and aquariums all over the world; it is entirely possible certain species have achieved and do achieve older ages in their native environment.)



HINDSIGHT

Welcome back! . . . all you nice people out there in Reader Land . . . tell you what I'm gonna do . . . I'm gonna let you in on something hot . . . yeah, REAL HOT! . . . something I don't want you to tell a soul . . . not anyone . . . NOT EN-E-ONE . . . HEAR! . . . if there's a blabbermouth out there among you who cannot keep his big yap shut I'll give him a number to call . . . OK? . . . well, now, . . . get out your October Angler and refer to the back cover . . . no, no, your October Angler isn't in the magazine rack where you put it . . . it's under that pile of stuff on the sewing machine . . . never even looked at it . . . now, . . . you have it? . . . OK, . . . now look at the picture on the back . . . looks like a real, rough-n'-rumble cook-out on the shores of Lake Kickagongaround on the wild Siberian slopes, doesn't it . . . be not deceived, old friend . . . it ain't Siberia and it isn't the Congo . . . this shot on the back cover was taken right smack dab in Jake Murphy's back yard, IN THE CITY . . . this, yes, this, is the setting for all our Angler outdoor photo features . . . you know, Jake's a whiz at scenic effects having put in ten long years experience moving scenery and carrying spears at the old Bijou on Market Street . . . what? . . . naw, this ain't THE confession, it's only background . . . what I'm about to confess, . . . now keep your traps shut, mind you . . . DON'T, FOR PETE'S SAKE TELL THE FRONT OFFICE . . . just read this and then THROW IT A-WAY! . . . Promise? . . . cheeze, fellas, if the Front Office ever gets wind of this, lightning will hit in one of two ways . . . (1) . . . I will be banished to the Cloak Room . . . ever been sent to the cloakroom? . . . well, you know it's dark and musty in there and it smells of kids and gum rubbers . . . once, I got there when my rubber band wore a little too thin and sent a spitball out into a faulty orbit . . . well, . . . the teacher would point and then I'd start my long, grueling trek up the Volga, there to be forgotten like the rest . . . one day teach klunked me in the cloakroom and completely forgot I was there . . . for two days kids came, kids went, stomping and sneezing all over me . . . and it wasn't until my Uncle Fred noticed he got an extra apple dumpling two suppers in a row that I was ever missed at home . . . crabsinetty, . . . ain't old folks dumb? . . . well, . . . but, I digress . . . where was I . . . Oh, yes, . . . the second punishment meted out by the Front Office is the insufferable demand I TURN IN MY PASTE POT! . . . Egad, Sire, anything but that . . . why I'd just as leave turn in my chemistry set as to part with my POT . . . what's that? . . . you say the Front Office will read this and find out everything . . . Oh, you

dreamer, you . . . let me tell you something . . . about the Front Office . . . they never MAKE IT this far back in the magazine . . . they never really do get back in this treasure chest, this hope chest this old hat nostalgic world of ours, . . . yours and mine . . . this private realm of CORN shunned by those in high places . . . no . . . no, no need to worry they'll read this . . . it's only dangerous if any one of you out there TELLS! . . . NOW . . . SHHHHHHH! . . . take a sneak look at the back cover of the October Angler . . . see that frying pan on the fire . . . something's cookin' . . . in that pan a-fryin' are the most delectable, delicious, desirable, delovely hunks of golden-juicy morsels in which you ever sank a fang . . . hungry? . . . droolin'? are you payin' attention? . . . no, now . . . but in that frying pan . . . and WATCH IT! . . . the flavor is about to unlock the secret . . . that luscious food a-cookin' there over that sweet-smellin' driftwood from Jake's goldfish pond IS NOT FISH! . . . IT IS NOT F-I-S-H! . . . period! . . . when we took this "pitcher" Jake didn't have a fish in the house, not even a can of salmon . . . not even a can of cat food . . . but Jake is real ingenious . . . he finds some chunks of CHICKEN . . . yeah, CHICKEN . . . in the freezer . . . that's what's cookin' in the fryin' pan . . . and this is the sneaky part . . . here, all along you just assumed it was FISH frying and sizzlin' in the pan a-way out in that tangled, mangled mess along the shores of Coronary Creek . . . 'Taint so! . . . that fotygraph on the back of your October Angler was taken in the wild, dark, dank recesses of Jake Murphy's patio . . . and so now you know and I'm glad . . . I just couldn't bear this insipid deception any longer . . . I HAD TO TELL SOMEONE! . . . Can you find in your gentle hearts forgiveness for an editor whose only sin was fryin' CHICKEN in a FISHING magazine?

—Ye Ed

P. S. Pray . . . don't tell!

•
Man is a dog's ideal of what God should be.

•
*To get his wealth he spent his health,
And then with might and main,
He turned around and spent his wealth
To get his health again.*

•
A Prayer for the Hurried . . .

Slow me down, Lord! Ease the pounding of my heart by the quieting of my mind. Steady my hurried pace with the vision of the eternal reach of time. Give me, amidst the confusion of my day, the calmness of the everlasting hills. Break the tensions of my nerves and muscles with the soothing music of the singing stream that lives in my memory.

Help me to know the magical, restoring power of sleep. Teach me the art of taking Minute Vacations . . . of slowing down to look at a flower, to chat with a friend, to pat a dog, to read a few lines from a good book. Remind me each day of the fable of the hare and the tortoise that I may know that the race is not always to the swift; that there is more to life than increasing its speed.

Let me look upward into the branches of the towering oak and know that it grew great and strong because it grew slowly and well. Slow me down, Lord, and inspire me to send my roots deep into the soil of life's enduring values that I may grow toward the stars of my greater destiny. Amen.

—Harrisburg Zion Lutheran Church Bulletin

the first Thanksgiving

. . . . and when he had taken the five loaves and the two fishes, he looked up to heaven, and blessed, and brake the loaves, and gave them to his disciples to set before them; and the two fishes divided he among all.

. . . . And they did all eat, and were filled.

. . . . And they took up twelve baskets full of the fragments, and of the fishes.



December 1960

Pennsylvania Angler

Mr. Charles Dickens
(A Christmas Carol)
rides
Pennsylvania's
Piggyback Canal

Holiday Greetings



from the
Pennsylvania Fish Commission



—Photo by Josef Muench

DOWNWARD TO THE SEA, the brook will pass under a half-hundred bridges taking with it the kiss of the frost for the far-off waters of the tradewinds. . . .

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DECEMBER, 1960

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GEORGE W. FORREST, Editor

JOHNNY NICKLAS, Photographer

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the piggyback canal

Story and Photographs

By **DON SHINER**

an old-fashioned story for an . . .



old-fashioned Christmas



**. . . come along back to yesteryear with Charles Dickens, . . .
of "A Christmas Carol" fame . . . as he describes
the passage on a fabulous journey across Pennsylvania . . . on
a piggyback canal boat . . . Circa 1835.**

■ Fishermen and boating enthusiasts would find it extremely difficult, if not impossible in this year of 1960, to traverse Pennsylvania in a boat. Yet this was the fashionable way of traveling in 1835, a mere hundred and twenty-five years ago. The route was the Penna. Canal system, part canal, part railroad and inclined plane. Far more than a mere means of travel for adventurers, pioneers and early Waltonians, the water-railroad transported huge volumes of freight and thus played a key role in the rapid industrialization of the state. Gone now from the scene however, are the physical remnants of the boats and waterway, tow paths, locks, low covered bridges, but the fantastic boat route from Philadelphia to Pittsburgh still lives in the memory of a few old timers and fishermen who seek relaxful moments angling in pools of water still trapped in isolated parts of the canal path or along the shores of the Susquehanna, Juniata and Conemaugh Rivers.

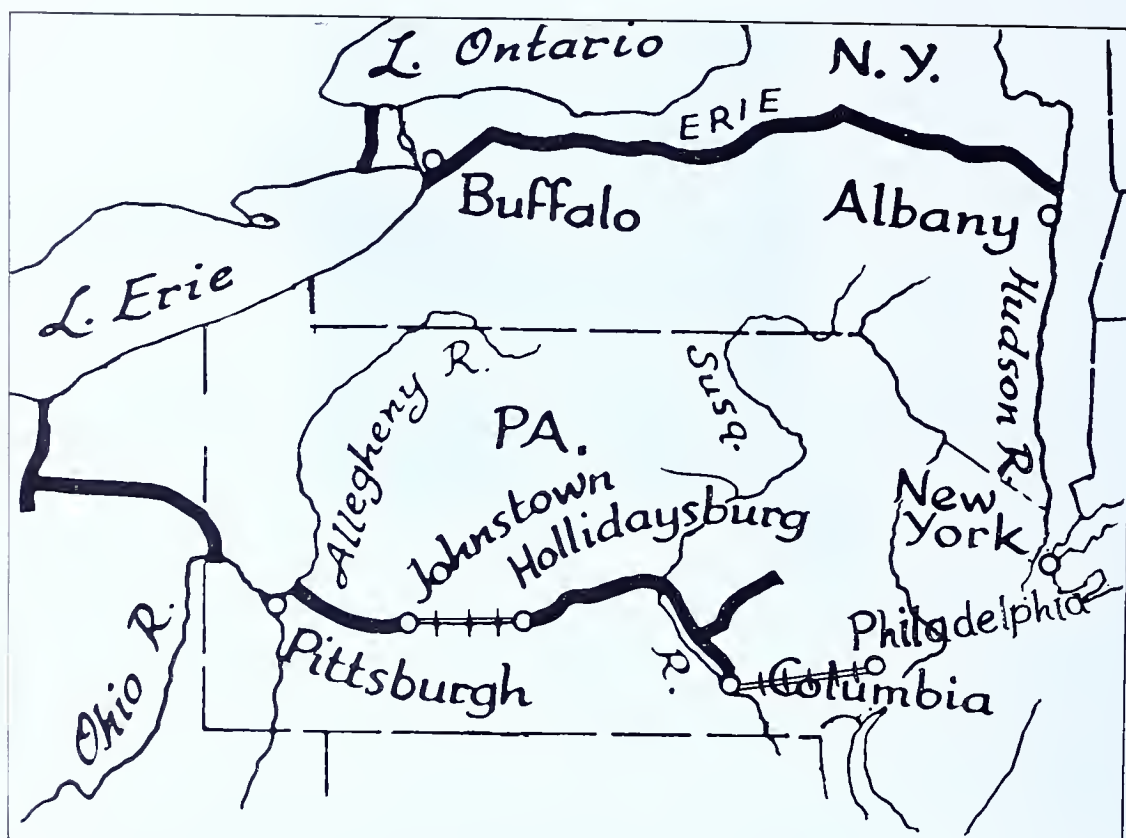
"Passenger Lines Leave Phila. daily at 8 o'clock a.m. via Penna. Canals and railroad for Pittsburgh, via Columbia and Harrisburg. Through in four days. Fare to Pittsburgh, 394 miles, \$7.00."¹

This poster was erected in 1835 on Walnut Street in Philadelphia after this speedy, comfortable transportation system was completed. Philadelphians and, in fact, merchants and business men throughout the state, were waiting for more than a decade for this announcement. It terminated many many years of planning and sweating of thousands of workmen, many newly immigrated to these shores, to surmount the obstacles in linking the east with the west. Now, at last, the state was in a competitive position to compete with the

Erie Canal route of New York which had been funneling the bulk of western freight and threatening to doom continual development of the Keystone's principle eastern city.

Still, to the Philadelphians, when the first canal boat, mounted on carriage wheels and pulled by teams of horses, appeared rumbling down the cobble stone street, it was indeed an extraordinary sight. Barefooted youngsters and gray headed gentlemen alike must have stared in utter amazement. It was not unlike fishermen of today hauling colorful boats and trailers through city streets, a practice that has grown tremendously in recent years. In the years that followed the 1835 opening of the canal, the strange boat carriages soon became as familiar to the Philadelphians as Wells Fargo's stage coaches were to the western plains folk. And as unusual as the entire boat trip to Pittsburgh appeared, it gained wide acceptance and recognition, with its fame spreading even to far parts of Europe. To stock brokers, coal merchants, pulp dealers, adventurers, settlers and early 19th Century Waltonians, the Pennsylvania Canal was considered the wonder of the age.

At the corner of 3rd and Walnut Streets, passengers climbed aboard the canal boat carriage. Waving a joyful farewell to friends that had assembled with the huge crowd of curious onlookers, the boat lurched forward, rolling down the street, giving the passengers the unique experience of boating down the business district. The route crossed the bridge of the Schuylkill to the Pa. Railroad tracks. Here the boat was separated from the carriage wheels and placed on a railroad flat car for transporting the remainder of the 82-miles to Columbia on the Susquehanna River. This, too, must have been an amusing experience—jostling along the iron rails and reflecting on the sanity of the decision to journey by boat across dry land. Alas,



OLD MAP shows route of the Penna. Canal and Portage Railroad . . . the heavy black line marks the waterway while the miniature rail tracks mark the "Piggyback" haul.

at Columbia, the boat was removed from the rail rolling stock and slid into the water to assume its normal role of floating smoothly along the liquid highway of the Pennsylvania Canal.

Pause for a moment in this strange voyage and consider some historical highlights keynoting the origin of this unusual canal/railroad system. Early records of this endeavor take us back to the year 1791. A great influx of immigrants were reaching the shores of America at this time, many seeking free land grants in the wild west and spurred by the promise of personal freedom in the newly independent nation. Great concern centered around establishing routes of travel and communication between the seaboard region and the new frontier.

Already some turnpikes had been constructed. But these, built over the mountains offered slow and expensive travel. Canals, but for four months during the winter freeze, were cheaper. Thus in 1791, a "Society for promoting the improvement of roads and inland navigation in Pennsylvania," was formed, having its object the creation of natural channels between the two principal cities, Philadelphia and Pittsburgh.

However, running across the state of Pennsylvania lies the Allegheny range, not very lofty it is true, but sufficiently high to interpose a formidable barrier to traffic and to render land carriage over the mountains an absolute necessity. The feasibility of building canals on the eastern and western sides of these rugged mountains was the first question tackled when the Legislature passed a Bill sanctioning the creation of the Penna. Canal Commissioners. This group was instructed to plan and contract for the construction of a railroad from Philadelphia to Columbia, and from Huntington to Johnstown. These rail lines would connect two lengths of canals into a single route, bridging the gap between the coastal region and the western frontier. The amount of \$2,000,000 was appropriated

for the work. This sum, through necessity, was renewed each year for a decade before the canals/railroads were completed.

The relatively flat projectory of land on each side of the Alleghenies offered no hardship for the canal routes. The eastern division of the Canal was built from Columbia to Hollidaysburg, a distance of 172 miles, with 33 aqueducts and 111 locks to overcome a height of 585.8 feet along the route.² A part of this water route consisted of the Juniata and Susquehanna Rivers, both dammed at suitable points for this purpose.

On the western side of the Alleghenies, at Johnstown, the second section of the canal was constructed. This was 105 miles in length, with 64 locks, 16 aqueducts, 152 bridges and a tunnel 1,000 feet in length constructed enroute.

The construction of the railroad between Philadelphia and Columbia was completed in record time. However, the line running between Hollidaysburg and Johnstown, crossing the Alleghenies at a height of 3,000 feet, was an entirely different problem. Construction began in 1831, and two years later the last rail was spiked in place. The most striking features were the inclined planes. There were ten of these in the 36 miles of track, five on one side of the range and five on the other. Pairs of thirty-horsepower horizontal engines were placed at the top of each plane. Double tracks had been laid so that a descending and ascending train was always attached to the rope at the same time.

Thus the canal boats were yanked up one side of the mountain through progressive levels, then eased down on the other side. Fantastic as this might appear, the railroad was highly efficient, handling nearly 100 boats a day, each consuming seven hours for the trip.

During the six months ending October 1836, there were 19,171 passengers conveyed over the Portage Railroad on the Allegheny



RAIL FLAT CARS similar to this 1890 model, were used to haul the canal boats overland from Philadelphia to Columbia, and again over the Allegheny Mountains at Hollidaysburg.

range and 37,081 tons of freight carried in 14,300 boat cars.

As the first group of passengers rode the boat train from Philadelphia to Columbia, they anticipated lengthy delays enroute, when the boat was shifted from rail to water. A brief period of delay was encountered at Columbia. But here, the piscator unfolded handlines and angled for husky suckers, pickerel and catfish in the placid waters of the canal. During the spring, passengers also watched or angled for the schools of shad, fresh from the ocean, that swarmed across the canal bottom like pebbles on a street. The boat chef was usually willing to prepare the freshly caught finster if the traveler preferred this to a breakfast of salty pork and beans.

Two sections of the boat, carried on separate railroad flat cars, were now pinned securely together. Then, with the mule teams harnessed and tow lines attached, the passengers clambered aboard. On deck, the captain blew his horn to announce the departure. The steersman took his place in the stern at the rudder. On the towpath, the driver spoke profanely to the mules. The canal boat was underway. Now, in contrast to the jerking motion of the wood burning railroad steam engine, the boat inched forward as silently as though gliding across the heavens with a gentle wind at the mast.

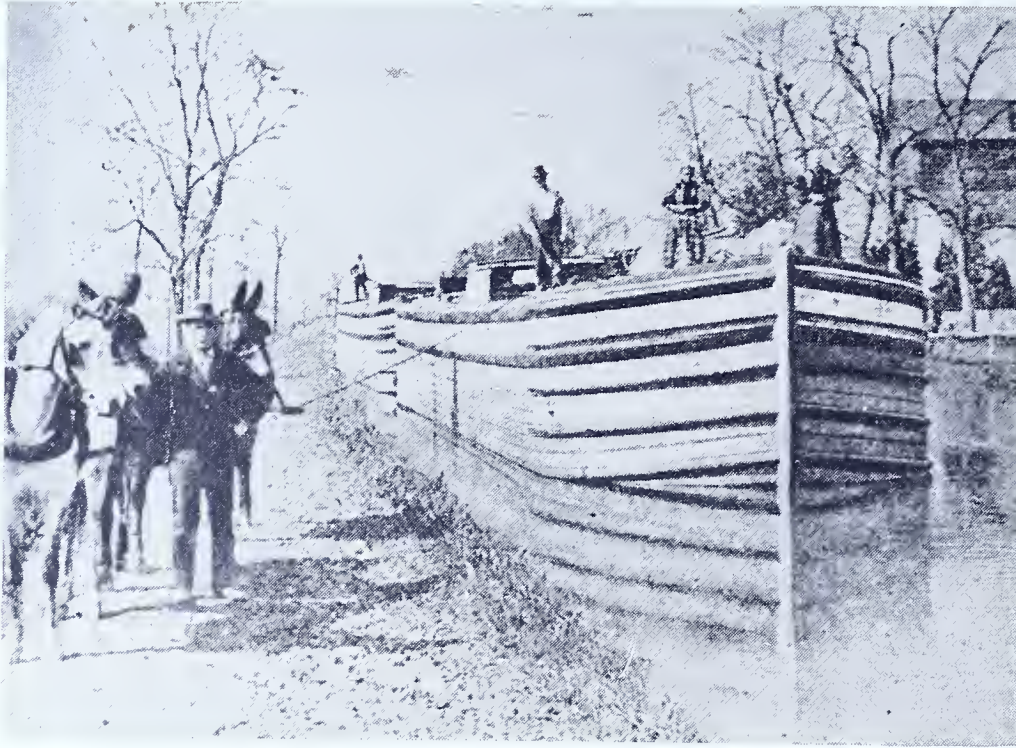
Charles Dickens visited this new United States and wrote numerous accounts of the Penna. Canal, giving a striking picture of the mode of life and living in general, in early Pennsylvania.

Dickens states, "We crossed the Susquehanna River, over which there is an extra-ordinary wooden bridge with two galleries, one above and the other below so that boat teams meeting may pass without confusion. The trip across the river was wild and grand.

"And yet, despite this oddity, there is much in this mode of traveling which I heartily enjoyed. Climbing from the berth below deck, at 5-o'clock, and scooping a bucket of icy-water from the canal, plung-



CONVERTIBLE CANAL BOAT . . . not quite a hardtop, but the folding roof on this old boat was the forerunner of those used later on automobiles. It was made of canvas and passengers frequently found shade a blessing on a hot summer day.



AT COLUMBIA, PA., . . . the canal boat was transferred from railroad to waterway. Teams of mules, walking along tow paths, towed the boats over the 172-mile route to Hollidaysburg.



LOCK ON THE CANAL . . . lifted the boats to next elevation on the journey. Two children, in foreground

ing one's head into the bucket and drawing it out, all fresh and glowing was a good thing. The fast, brisk walk upon the towing path, the lazy motion of the slow moving boat, cloaked in deep blue sky overhead, the gliding on at night, so noiselessly past frowning hills, sullen with dark trees, the bright stars, undisturbed by any other sound than the liquid rippling of the water as the boat went on, all these were pure delights."³

The journey to Hollidaysburg consumed two full days and nights. As Dickens so eloquently related, on clear weather days, many passengers went ashore and walked slow-gaited along the towpath, keeping pace with the slow mules. Undoubtedly there was much conversation between them and country folks who gathered along the banks to watch the slow canal traffic glide by. Always amusing was the sight of farm youngsters herding flocks of ducks, geese and pigs from the canal, indicating they may have experienced losses through boatmen who occasionally and uncouthly lassoed a fowl or animal for the boat's dining room.

On every boat there was the Waltonian who could not resist the temptation of dropping a line overboard and trolling a baited hook in the wake of the boat for pickerel or bass. Modern day trolling methods derived much from this early and relaxful system of fishing from a canal boat. Between bites, the angling passenger could dreamily watch the fields, bridges, and small villages float past as the panorama scenery unfolded into reality.

Boat railings revealed countless notches. Passengers whittled these to keep an accurate account of the number of locks encountered, the number of fish caught, or perhaps the number of fishermen who were stretched horizontally on the grassy canal banks as their boat glided down the water route.

On rainy, foul weather days, passengers were huddled into the cramped quarters below deck. For some, the journey was shrouded with boredom. Poker playing, story telling or sleeping engaged time between meals. If weather, companions and food were found unpalatable, there were always the inns in the small remote towns enroute to Hollidaysburg, where guests could be accommodated overnight or until passage could be secured on a later boat.

An early account of the life on the Erie Canal boat in 1833 is probably applicable to that on this Penna. Canal system. It says in part, "During the day the number of passengers increased to about sixty, including twenty ladies; and where this large party were to be stowed for the night, it was not easy to anticipate. In the cabin there was no appearance of sleeping berths by day, but at night ranges of shelves were put up, and the chairs, benches and tables, were all converted into beds. The portion of the cabin destined for the use of the ladies was obscured from observation by a curtain. In order to prevent partiality, there was a sort of lottery, in which each person drew forth a lottery which determined his position for the night. Fortune fixed me on the table, and there I lay with the knee of one



suspiciously while in background is an old covered
n bridge somewhere along the route.



SLOW TRAVEL was borne with patience by some, grumbling
by others. Canal passed thru beautiful woodland and passen-
gers frequently got off boats and walked to escape boredom.

man thrust directly into my stomach, and with my feet resting upon the head of another. The sheets were offensively dirty, and the blankets not much better.

"Americans dread the circulation of pure air; and those in the vicinity of a window insisted on its being closed. Under these circumstances, the atmosphere became not only hot, but poisonous, and the act of inhalation was performed with disgust. Then there were legions of moschetoës whose carnival, from the use they made of it, seemed to have been preceded by a lent, and to crown all, at least a dozen noses were snoring bass to an unmelodious treble which proceeded from the ladies' division of the cabin.

"One night of this kind was enough! In the morning, the heat of the cabin was intolerable. Driven from within, I took a seat on deck. I found myself exposed to the full fervour of the sun, and the boards were literally burning to the feet. Add to this nuisance of the numerous bridges, the arches of which are barely high enough to admit the passage of the boat, and leave to the passengers only the option of descending every time they approach one, or of being swept off by a more summary process."¹

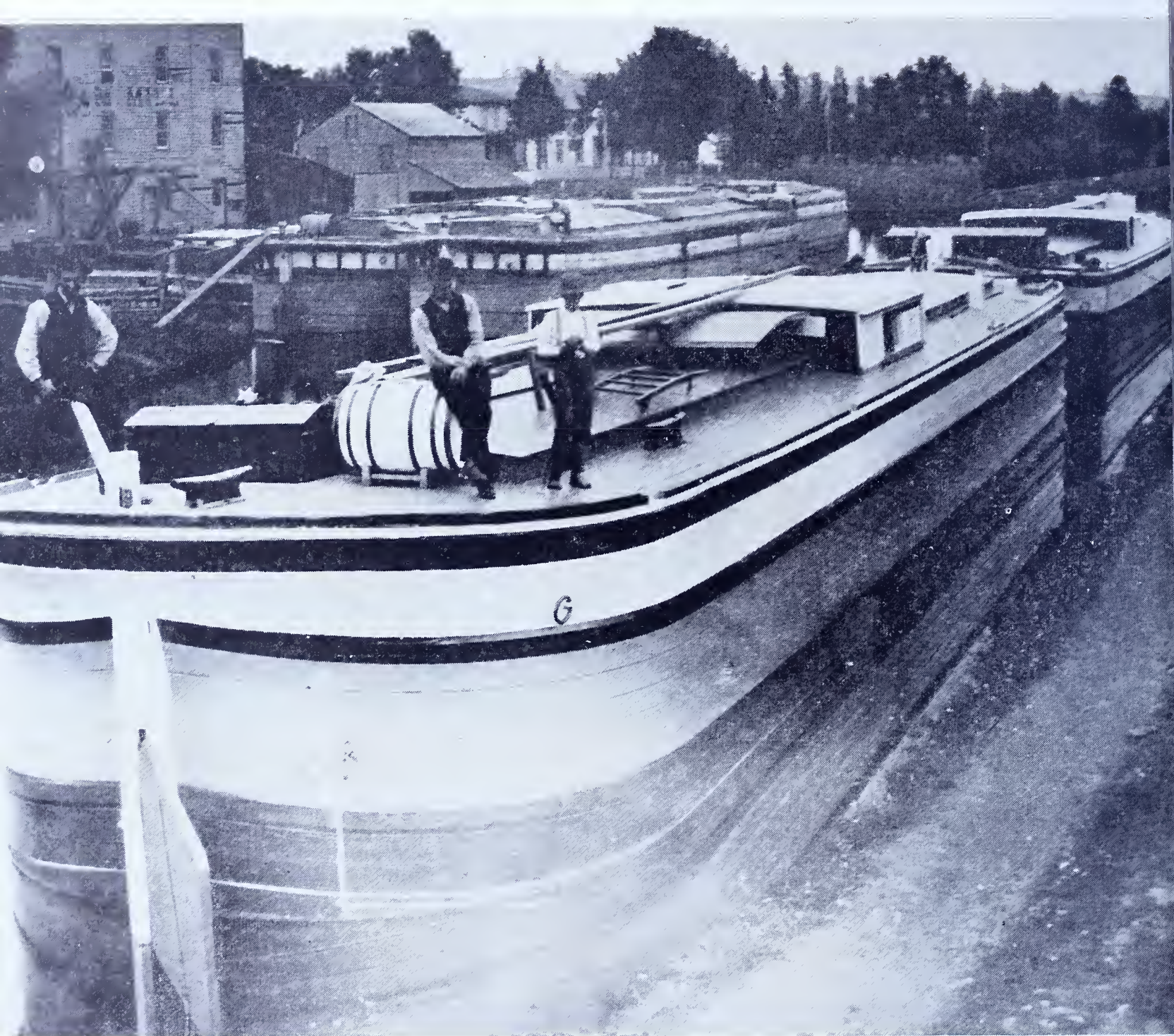
It is obvious that the above account dealt with a voyage during the warm summer. In contrast to this, Dickens' trip across the Penna. Canal was during the crisp autumn weather. He writes: "Between five and six o'clock in the morning, we got up, and some of us went on deck, to give them an opportunity of taking the shelves down, while

others, the morning being very cold, crowded round the rusty stove, cherishing the newly kindled fire. At 8 o'clock, the tables were joined together and everybody sat down to tea, coffee, bread, butter, shad, steak, potatoes, pickles, chops, puddings and sausages, all over again. When everyone had done with everything, the fragments were cleared away; and one of the waiters appearing anew in the character of a barber, shaved each of the company who desired to be shaved; while the remainder looked on, or yawned over their dated newspapers. Dinner was breakfast again, and supper and breakfast were identical."

Dickens also wrote of the boat being pulled from the canal and placed upon a Portage Railroad flat car in preparation for the ride over the Alleghenies.

"It was a very pretty ride, traveling thus at a rapid rate along the heights of the mountain, to look down into the valley full of lights and softness; catching a glimpse through the tree tops of scattered cabins, children running to the doors, dogs bursting out to bark, whom we would hear without seeing, terrified pigs scampering homeward, cows gazing upward with stupid indifference; men in their shirt sleeves looking on at their unfinished houses; and we riding onward, high above them, like a whirlwind."

Down the last inclined plane at Johnstown, the boat was once again placed into the canal for the last leg of the journey to Pittsburgh. Again the passengers climbed aboard the 80-foot boat, and relaxed on the wide 11-foot deck as the craft skimmed smoothly beneath a tun-



OLD CANAL BOATS of the Penna. Canal and Portage Railroad that were hauled "PIGGYBACK" on the 394-mile route from Philadelphia to Pittsburgh in 1835.



FAMILIES OF CREWS often live on the canal boat. Many youngsters were born on these boats and knew no other home. This photo shows canal drained for the winter, or for possible repairs.



A HUNDRED BOATS passed through the canal per day. The canal was wide enough for two 11-foot wide boats to pass.



AQUEDUCTS carried water over creeks and deep ravines. They were actually troughs made of heavy planks. Always leaking and in need of repair they were trouble points and nuisances to the canal maintenance squad.



FISHERMEN to this day like to throw a line in the waters of one of the remaining old locks.



TODAY most of canal lies in ruins, yet a few isolated places are still good fishing spots for panfish, pickerel and bass. To fish here is to fish with **GHOSTS!**

nel of towering trees. Only the mellow sound of the captain winding his horn in warning lockmen to make ready for a coming boat, broke the spell that was cast over the 19th century canal traveler.

The entrance to a lock stirred excitement among both crew and passengers. The lock is actually a stair step in the canal, lifting the boat to a higher plane and thus ascend a hill. Once the boat was towed through the open gate, the tender closed the door. The in-flowing water raised the boat to the next canal's length elevation. Inside the stone walls of the lock, the boat looked as though it were floating in a huge bathtub.

Dickens spoke of leaving Harrisburg on Friday morning, arriving at Pittsburgh on Monday evening to hear the "clanking of hammers and furnaces casting redding lights in the sky." As the boat was towed across the Allegheny River through a long aqueduct, the journey was finally completed.

Alas, this romantic system of traveling spanned but twenty short years. In 1855 the canal was sold to the Pennsylvania Railroad for \$7,500,000, less than a third of the original cost of construction. True, part of the canal continued to operate after 1855. The last boat was seen afloat around 1901. The boatman winded his horn to the last of the retiring lockmen. As one local newspaper editor wrote, "The mellow echoes of the boatsman's horn which once reverberated amid our mountains, will be heard no more, and in a few fleeting months the shrill sound of the iron steed will be a familiar sound to the ears. Gladly we bid a final adieu to the mule teams, the terrible profane drivers and cheerfully bid a hearty welcome to the tireless iron horse."

Within the last 60-years, the old boats have now rotted into worthless lumber and have long since been washed astream as silvered driftwood. Locks have crumbled into none existence. Towpaths have grown thick with brush and trees. Only a slight depression here and there is found in the ground indicating the once flourishing channel. This exciting era has been forgotten by the current generation.

Only a handful of fishermen return each year to the murky pools to angle for pan fish or other finsters washed into the canal route by spring floods. Many of these are youngsters who know nothing of the historical Penna. Canal. Some are old timers, now with graying beards and bent figures, who return to the still pools with hopes of hearing again the mellow sound of a boatsman's horn. Legends in various towns tell of the horn's mellow echo resounding far down the old canal trail. It is probably only the wind swaying the tall trees that choke the bed, yet who can be sure it is not an old boat, cloaked in spirit rather than boards, plying the imaginary waters of yesteryear?

Sources:

- 1 Philadelphia Inquirer Magazine, James Creasy, May 1954.
- 2 History of Pennsylvania Railroad, J. Dredge, pub. 1879.
- 3 American Notes, Charles Dickens.
- 4 Men and Manners in America, Frances Trollope, 1833.





BLUEGILL GROWTH in farm ponds such as this depends on fertility and composition of fish species present.



REMOVAL OF BLUEGILLS from farm ponds by fishing is fun—and helpful management.

The Age and Growth of the

BLUEGILL

in Pennsylvania

PART III

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■ Popularized because of its introduction into farm ponds throughout the United States, the bluegill had become the magic name in pan fish. In the northeastern states during the past decade some of the glamour has worn off this species. It is no longer considered the panacea for good pan fishing wherever it is introduced. In fact, it has been found to be a problem fish in some water areas—and particularly in farm ponds.

Why this sudden change from glamour fish to pest in some waters? Simply because of its amazing reproductive capacity and the resulting stunting of growth which follows. A five inch bluegill may produce as many as 6,000 eggs while a nine inch bluegill may lay almost 50,000 eggs. Not only do the bluegills stunt, but because of the pressure they put on the largemouth bass through competition, small populations of bass may be annihilated.

The best bluegill fishing is usually found in lakes which have good populations of predatory fish such as pickerel,

bass and walleyes. These predatory fish help to keep down the bluegill population and prevent stunting. In these lakes, the bluegill fishing is excellent, particularly in the spring when the water temperatures are in the 60's.

How did the bluegill obtain the reputation of being the ideal pan fish? It originated in the southern United States where the bluegill has the opportunity to grow under optimum conditions the year around. Growths in nine Texas ponds showed 5.8 to 8.0 inches in the first year. Compare this growth with growths obtained in Pennsylvania lakes on Table I. It takes four to six years in the northern climates for the bluegills to obtain the same size. Not that bluegills can't be made to grow faster in northern ponds and lakes, but it necessitates intensive management for this species. Such management is usually practiced in small ponds where the number of small fish can be readily controlled.

In larger ponds and lakes, a build-up of the predatory



BLUEGILLS on the prowl for food.

fish aids in producing the fastest growing and largest bluegills.

Because of the disc shape of bluegills, some wild guesses have been made as to their weight. The chart below should indicate approximately what weight to expect of a bluegill in relation to its length.

<i>Length in Inches</i>	<i>Weight in Ounces</i>
4	1
6	3- 4
8	6- 8
9	9-12
10	13-16

Table I is a growth table for seven Pennsylvania lakes. Computed at the bottom is the average growth for these lakes. These figures are included because many people ask, "What will the growth of bluegills average throughout the state?" The "average" shown could not apply to any one lake. For instance, one could not apply this state average to Peck's Pond since there is little similarity. Therefore, one should try to consider the ranges in growth which can be expected rather than averages.

Now that you, the fisherman, are aware of the relatively slow growth of the bluegill, you may appreciate the long, hard years behind that nine inch bluegill you caught.

TABLE I
Average Calculated Total Length at Each Annulus for
Bluegill in Seven Pennsylvania Lakes

<i>Lake and County</i>	<i>Number of Specimens</i>	AGE								
		I	II	III	IV	V	VI	VII	VIII	IX
Duck Harbor Pond, Wayne County	107	1.0	2.0	3.2	4.5	5.8	6.9	7.6	7.3	7.8
Peck's Pond, Pike County	10	1.1	3.0	5.1	7.0	7.2	7.9			
Lake Winola, Wyoming County	64	0.7	2.4	4.2	5.9	7.4	8.2			
Tingley Lake, Susquehanna County	47	0.8	2.1	3.9	5.0					
Brady's Lake, Monroe County	177	1.1	2.6	4.1	5.4	6.4	6.9	7.9		
Cowan's Gap Dam, Fulton County	92	1.8	2.8	3.9	5.1	6.9	8.1	9.0		
North Jersey Lake, Monroe and Wayne Counties	62	1.2	2.5	3.8	4.7	5.9	6.4			
Average		1.1	2.5	4.0	5.4	6.6	7.4	8.2	7.3°	7.8°

* Based on one (1) specimen.



—Josef Muench photographs





BOWING AND SCRAPING these mantled figures are only trees in their winter robes.



DAMOCLES'S SWORDS hanging on slender icy threads are Winter's threat to all who pass this way. The Stream . . . blithely unaware of the danger runs coldly on between huge marshmallows hasty in its journey to the sea. . . .

SPORTSMEN TOUR "ACCESS AREAS"



LAKE ERIE FISHERMEN gather 'round to inspect the Walnut Creek Access Area, a project of the Pennsylvania Fish Commission, designed for anglers fishing the inlets of the lake. About 500 nice fish were caught here among them a 13-pound rainbow trout.

By **THAD BUKOWSKI**

A caravan of nine cars and over three dozen sportsmen, sportsman organization representatives and Pennsylvania Fish Commission personnel took a nine hour, 173-mile tour of Northwest Region fishing "access areas," yesterday, from 10 A.M. to 7 P.M. as part of a fisherman "show me" tour.

They began and wound-up their tour at Beacon Inn near Meadville after which S. Carlyle Sheldon, commission supervisor of Northwest Region and Cyril G. Regan, chief of real estate division from Harrisburg, briefed the group on the commission's work.

The group visited eight new fish commission access areas, each of which have parking areas and launching ramps for boats and motors. They traveled throughout Crawford and Erie Counties and covered only half the intended tour by nightfall. Areas in Forest, Venango and Warren Counties are still to be seen at a later date.

The caravan visited in order the following access points:

1. Cussewago Creek, off Rt. 102, which has three to five miles of boating water and bass, muskie and northern pike for fishing.



FAMILIAR RUSTIC SIGN of the access areas welcomes all fishermen to launch their craft here. Warden Supervisor S. Carlyle Sheldon, Northwest Region (left) and Cyril Regan, Chief, Real Estate and Land Acquisition Division, Pennsylvania Fish Commission, were hosts on the "Show Me" tour.

2. Gongawan property near Wilson-Chute Bridge on the French Creek off Rt. 322, two and one half miles south of Meadville, for bass, walleye and muskie.

3. Woodcock Creek, near Saegerstown on French Creek, bass and walleye.

4. Cambridge Springs, French Creek, muskie and bass.

5. Walnut Creek at Lake Erie, the most important of the areas, is in the process of being acquired. This area will also include a large boat and 30 commercial nets which the commission can use to net fish for restocking purposes on inland waters. Fishing in the area will be for giant lake run rainbow and smelt during the smelt run.

6. Eaton Reservoir, a 235 acre lake area near Northeast, Pa., off Rt. 89, Damsite and Black Roads, leased by the Fish Commission to provide fishing for anglers who find Lake Erie too choppy on days they get there. Fish are smallmouth, perch and walleye.

7. Union City Reservoir near the Union City fish hatchery, a 65 acre body of water. Fish are largemouth, catfish and pan fish.

8. Canadohta Lake area, a 325 acre water area, muskie, bass and pan fish.

Both Regan and Sheldon addressed the group after the evening meal.

"Unless we get access and dam sites Pennsylvania will be the loser," Regan said and added, "Since 1955 we have spent about one million dollars in the acquisition program."

"One of the big problems," Regan said "is competing with private groups, with industry and other organizations, which have money. We have to pay the prices for land areas for which others compete."

Sheldon inferred the Northwest Region will see a plentiful supply of lakes in the future.

"Eight, 10 or 12 lakes are on paper on Federal (water) control but no announcements have been made as yet."

Other personnel who made the tour included: Melvin Dinger, John Hoffman, Glen Spencer and Ralph Blessing, all assistants to Regan under the acquisition program; fish wardens Ken Corry, Warren County; Clarence Shearer,

Venango County; Norman Bloom, Forest County; Cliff Iman, Beaver and Butler Counties; Dick Ablanalp, Mercer and Lawrence Counties; Norman Ely, Erie County; and Ray Hoover, Crawford County.

Harry Gramlich, representative to the state legislature from Franklin, Pennsylvania, Ed Palmer, president of Northwest Division, federation of Sportsmen, and among other representatives, both Berwick Goff and Al Cartwright, representing Lawrence County Council of Sportsmen.



NORTHKILL IS IMPROVED

Dams Will Make Creek Attractive to Trout

(Reading Eagle Photos)

The upper reaches of the Northkill Creek on State Game Lands No. 110 north of Shartlesville will prove more attractive to trout upon completion of stream improvement work by the Pennsylvania Fish Commission.

A 10-man crew headed by Harold Stitzer of Centre Hall near Bellefonte, has constructed eight small log and slab floor dams in a 1½-mile stretch of the Northkill below the game protectors' log cabin north of Route 22.

Stitzer hopes to construct similar dams, pools and deflectors for at least another mile up into the Blue Mountains where the stream originates.

The local work is part of the Fish Commission's stream improvement division's projects throughout the state. Before moving into Berks County, Stitzer, his foreman, Paul Zimmerman of Bellefonte, and two heavy equipment operators did similar work on streams in Lycoming County. They are scheduled to work in Franklin County and Fulton County.

The dams built on the Northkill are constructed in such a way that the water flowing through their weirs will form pools about four feet deep below each log impoundment.

Using lumber cut from the surrounding forest, the men anchor two or three large logs to either side of the creek embankment. A "nailer" log is implanted in the creek about five feet upstream from the small breast and then the slabs are nailed from the breast to the nailer logs. The water flows over the slabs and into a pool immediately downstream from the dam. This, through the process of erosion, will form a deeper pool below the dams. And the fish—trout in this section of the Northkill—can hide beneath the five-foot slabs which run upstream from the breast to the nailer logs.

Lacks Pool

A picturesque, clear little mountain stream, the Northkill has enough vital shade but lacks sufficient pools and overhead shelter. This lack will be filled with the series of small dams and deflectors being constructed by Fish Commission men. Main purpose of the small dams is to provide shelter for fish and not to impound water, Stitzer explained.

Stitzer claims he has the best-equipped stream improvement crew in the 50 states. Equipment includes a back hoe and air compressor, a front loader with hydraulic timber winch, chain saws and the usual number of axes and sledge hammers. There is a full complement of air operated tools including a pneumatic drill.



NORTHKILL CREEK improvements are inspected by Harold Stitzer, chief construction foreman, Pennsylvania Fish Commission, left, and Berks County fish warden Norman W. Sickles.



DAM CONSTRUCTION at Northkill is being pushed by (l-r) John Straub, Reading; Foreman Paul Zimmerman, Pennsylvania Fish Commission and Robert Moyer, Reading. Straub and Moyer were part-time employees on the project.

Material for the stream improvement work—timber, stones, sand and gravel—is obtained free in the immediate area. So the state's stream improvement work is done at very little cost for material.

In the past three summers stream improvement work has been done on land owned by either the state Fish Commission, the Game Commission or by the state Department of Forests and Waters. However, Stitzer said, similar work will be done on streams flowing through privately owned land wherever the Fish Commission can obtain long-term leases permitting public fishing.

Stitzer, who has been a fish commission employee for the past 22 years, has been in charge of stream improvement work since it was started three summers ago. When not in the field, he works as a fish culturist at Bellefonte.

Stitzer and Sickles pointed out that the Northkill and similar streams in Berks County could be vastly improved for fish with the construction of simple deflector and stone dams.

It is hoped that the Northkill job will become a "pilot" project for similar work by local sportsmen's groups. Limited funds prohibit the Fish Commission from completing similar improvement work on every one of the Commonwealth's trout streams.

Conservation

Methods



—Josef Muench Photo

SOME MAD PASTRY CHEF went berserk, as you can see, putting too much topping on the cakes and tarts for me but for someone with a tooth that's sweet and unbroken . . . as yet . . .

WATER RESOURCES

Water is a vital natural resource. It is becoming more limited in the United States. This was dramatized at the Seventh National Watershed Congress in Washington, D. C., on April 18, 1960, when the water conservation commemorative postage stamp was issued. The presentation statement read in part: "Our national and personal needs for water for domestic use, for sanitation, for manufacture and for agriculture are multiplied each year by our expanding population but there is just so much water. We can meet these vital and rising demands for water only by better use of what we have, by reducing needless waste and pollution, by protecting the watershed upon which our water falls as rain and snow and by finding more efficient ways for its use.

"Most problems of water shortage, poor water, or floods trace back directly to the land. Whether the land in each watershed is eroded or is mantled by a protective cover of grass and trees, whether there are small dams and other flood prevention structures along the channels, whether steps have been taken to reduce pollution—these determine in a large measure whether water supplies are ample and reliable."

CONSERVATION—A Basic National Policy

The material condition of men's lives can profoundly affect the spiritual. Science and technology must be the servant of man, not the master. Therefore, the forces operating to change the agricultural picture must not be permitted to develop without guidance.

Farmers and ranchers find that cooperating with nature, using land within its capabilities and treating it according to needs pays off.

Farmers alone cannot assume the total responsibility for conservation. Responsibility must rest on all people if the public wishes to achieve conservation of land and water. Conservation must be supported as a basic national policy just as defense, public health, education, roads, and other measures for the benefit of all.

With the forecast of a million new families in the United States each year for the next 20 years, the pressure on our resources will be intense. Wise conservation policies combined with the application of best known practices as determined by sound research will be required to provide the capital and goods needed for this enlarged population. The cost of raw materials, both from renewable and non-renewable resources, is likely to increase. Technological progress that will develop new and more efficient ways of managing renewable natural resources is vital, considering the future pressures for use of these resources.

The basic importance of land and water to the material and moral welfare of man makes conservation a "must." Soil and water are God-given heritages to all people. Man is merely the custodian and good stewardship is a sacred responsibility. The amount of conservation of soil, water and related renewable natural resources that we achieve will have a direct bearing on the future standards of living of the nation and the world. Our Society, through the active cooperation of all members, can contribute much toward this goal.



Trifles Make the Difference

When the Greeks cast their Brown Hackle Red along the Macedonian rivers and caught the speckled skinned fishes, they were not troubled about pattern selection but with presentation of the only pattern at hand. How long it was before some one changed the color of the hackle or body we do not know, but this one thing is certain, it was not long until "improvements" were introduced. These improvements introduced the problem of lure selection in addition to presentation, and multiplied it many times. In this modern picture of sport angling we have spinning, casting and fly fishing with their related lures and methods to further complicate the problem.

Related to each method are lures that can be classed as surface, sub surface and deep water, each constructed with a particular situation in mind. When the selection of a proper lure has been made then the presentation becomes all important. It is in this phase of the problem that the expert angler excels. Examine his techniques and it is the trifles that make the difference.

The author numbers among his associates a number of anglers who are experts in various phases of angling. It is the unselfishness of these good friends that has made the

practice of angling one adventure after another. There are certain relatively insignificant variations of presentation that bring success.

There is a northern bass river that has a reputation for producing only with live bait during the day and with a certain surface plug at night. It was my privilege to visit this river a number of times in the company of a devotee of the art of spinning. He has found that a certain, curved-shaped sub-surface plug will produce during the daylight hours. With two other anglers he visited the stream one evening. They used identical tackle and lures.

The expert landed approximately thirty fish in the four hours of light that preceded total darkness. The second angler took six and the third a single small fish. The secret was the retrieve. The expert moved his lure so slowly that its side to side swimming motion was barely noticeable. If there was any current the lure was cast across to the opposite side and allowed to swing across while the lure is retarded barely enough to bring out the action. The other anglers although they had been told to move the lure slowly were reeling almost three times as fast as the other.

This slow reeling technique was brought home rather forcibly to me one dark night, while fishing with a local expert. The plug was a quarter ounce surface disturber. The only contact the angler had with the plug was the pull of the plug and the splash when it landed at the end of a cast. Due to the wide lip this plug makes a burbling noise when reeled at normal speed.

Bass have a habit of coming at the plug from the rear and hitting it with a splash that carries them toward the angler. The idea is to strike at the splash, thus taking up the slack and driving the hooks home at one operation. My fly-trained mind insisted that I must know where my lure was located and so I reeled fast enough to follow the progress of the plug by sound.

When my companion took fish at frequent intervals while I remained fishless, I strolled down the gravel bar to learn the secret. In the dim light I could see the wake his plug made on the surface but could not hear the noise my plug had been making. He was reeling at a very slow speed with frequent pauses which allowed the plug to float motionless for ten to fifteen seconds. I returned to my spot and tried his technique. The second pause produced a smashing strike and a good fish.

There is one other procedure that is a must in night fishing. Wading is out. The ripples sent out by wading anglers ruins the shore line and pool for at least a half hour. The first casts are made parallel with the shore and only a few feet out where the water is comparatively shallow. Then the cast is made at a twenty degree interval until the entire available water has been reached. Bass come into the shallows to hunt for crawfish and minnows at night. We have had them take plugs in water so shallow that they could not jump. When changing locations, walk as quietly as possible and use your light sparingly.

Just over the mountain from this stream is one that harbors both trout and bass. This same friend who makes the bass turn handsprings for a chance to hit his surface plug worked equal magic on the rainbows of that stream and brought in a mixed bag of the two species that was the envy of viewing anglers.

The large pool was ringed with rising fish yet three anglers sat idly under a tree and watched the water disgustedly. The sub-imago of the Shad-Fly were climbing laboriously to the streamside foliage. Three more anglers wandered up and cast to the rises without results. All had used reasonably exact imitations of the hatching fly and had floated them over rising fish. One angler sat down near the pool and watched the rises intently for a few minutes. Then he cast and let his imitation sink to the bottom. In a few seconds he was fighting a fish. After repeating the performance several times he called one of his companions and after a short conference the second angler began to take fish. The anglers across the stream took the hint and put on underwater lures but the result was disappointing. The successful angler then called the third member of his party and shortly he too was taking trout. The method was explained to me and on several occasions has proved successful.

The lure is a large nymph of any dull pattern. This is cast near the spot a trout has come to the surface, and allowed to sink to the bottom. The nymph is moved to the surface in short jerks and just as it reaches the surface it is allowed to drop back several inches. It is this sinking from the surface that brings the strike. Apparently the natural falls away from the surface several times before it finally hatches as a fly. This condition generally exists at the beginning of the hatch. Later trout take the adult and its imitation without hesitation.—*Albert G. Shimmel*



★ Opinion

★ Methods

★ Review

Techniques . . .

It was one of these mid-May days when the trout streams seem to lie lifeless under the first warm weather of the year. My friend, an expert at the dead-drift technique was fishing from one side of a deep glide while I fished the other. A half-hearted splash or two was the total result I got with my three wets swinging down the pool on their ten foot of tapered leader. Across the pool my friend took a good trout every few minutes.

After his fourth trout he called instructions to hold the cast in the current as it reached the limit of its swing at the end of the cast. Following his directions I watched the flies bob to the surface and hang directly below me. I watched for what seemed a long time and then just as I was about to lift the flies for another cast there was a flash and I was fast to a pound of brown trout. That did the trick and for the balance of the day we enjoyed excellent sport.

This is a technique that I have used with success on a number of occasions. It is one of the strange quirks of nature, as the brown trout is seldom partial to a dragging fly.

There was the experience we had on the river at the beginning of last season. We were all fishing a deep running, seale-finished plug that was especially developed for spinning tackle. For a while during the morning we had fine sport and then came the lull. There was one of the group that continued to take fish with astonishing regularity. We watched him fish and imitated his style but without success until one of the party discovered that he was decorating the rear treble of his plug with night-crawlers. The bass lying deep along the ledges apparently were powerless to pass up such a delicacy.

One evening when the black midges provoked a rise of exceptionally large trout they ignored the finest imitations we had and nearly drove my companion to profanity. Admitting defeat I retired to the bank and watched the water with some attention. It seemed the trout splashed at a swarm of midges. Then, as a number of the tiny specks floundered helplessly at the surface, the trout gathered them with barely a dimple to mark their passing. After trying a number of patterns without success a Badger Spider with brassy edge to the hackle was cast to the nearest rise. To my amazement the fly simply disappeared. Eleven casts produced ten rises and nine hooked fish. Darkness put an end to the sport but that evening was the highlight of the season. My friend had tried a number of conventional patterns but failed to raise a single fish.

—Albert G. Shimmel



The Headless . . .

Driftwood floating downstream is a familiar sight to fishermen. Rarely does one give debris more than a casual glance. I did on this occasion and almost fell out of my boots. The tree root or limb that bumped against my legs as I stood hip deep in Fishing Creek, Columbia County, was the figure of a man! I netted the driftwood from the water and was amazed at the similarity. Lacking a head, hands and feet, the strangely shaped piece of wood was otherwise the exact replica of a man's torso. Dame Nature infrequently produces such freaks.—Don Shiner.

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That best portion of a good Man's life . . . his little, nameless, unremembered, acts of kindness and of love. . . .
—Wordsworth

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We can never judge another soul above the high water mark of our own.

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Walk on a rainbow trail; walk on a trail of song, and all about you will be beauty. There is a way out of every dark mist, over a rainbow trail.
—Navajo Song

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Conservation is like the shadow of a tree swaying against the wind . . . our shadows, our influence, may fall where we can never be.

Early Erie

In the early days of the republic, lakeshore real estate did not sell at a premium. In fact, some currently choice property on Lake Erie once went begging in a way which the good people of Erie, Pennsylvania, population 130,125 or thereabouts may not care to recall now. For their neck of the woods was a geographic leftover until Pennsylvania picked it up as a bargain.

Soon after New York defined her western boundary, Pennsylvania stepped off her northern one. The so-called Erie Triangle, 324 square miles, was by-passed by both states and left strictly in a corner by itself.

Then some farsighted Pennsylvanians got to thinking. Look at that northern boundary of ours. It's a mistake, an outrage. Here the growing commonwealth of Pennsylvania has no shoreline or outlet on the Great Lakes.

Trade with the vast west was already beginning to boom. In that day, it depended almost entirely on water-borne traffic. The Pennsylvanians became frantic at the thought of business they might miss. So the Pennsylvania legislature quickly authorized the purchase of the Erie Area from the United States Government, which then held it, for \$151,640. or about seventy-five cents an acre. It was literally dirt cheap, even in the year 1792.

Though the advent of railroads made water transportation secondary, the purchase still gives Pennsylvania the distinction of being the only state with three-way shipping outlets to the Atlantic: via Great Lakes and the St. Lawrence; the Ohio-Mississippi rivers and the Gulf; and the Delaware.—*E. William Grant*

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*Silently, one by one, in the infinite meadows of Heaven,
Blossomed the lovely stars, the forget-me-nots of the angels.*
—*Longfellow*

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Reverie

Companionship plays a big part in the sport of angling to most of them, while the blending of sky and water amid a fringe of lush green or riotous colored trees offers a relaxing atmosphere to the patient, waiting fishermen. Most sportsmen should be termed naturalists, for whether they know it or not, the ultimate reward of their efforts is not a full fish-bag or creel, but an abundance of good health.

There's tonic in every hour spent with rod in hand watching dimpling water shimmer under an azure sky. For the vastness of the universe still enchants those who seek sweet refreshment in the out-of-doors. Rippling waters which betray the fast motion of tiny fish being chased by bass or perch are tantalizing to those who wait, and an occasional catch of these flippers does not liven the day too much for patient sportsmen. There have been long waits for pickerel and bluegills, not to mention the cat-fish and suckers which are sometimes not too responsive to the most tempting bait.

There are the hours of meditation and musing that perhaps pay the biggest dividends. They are like a clean wash of heart and soul. Here the angler frees himself from the cares and troubles of a work-a-day world to dream in outdoor freedom. There's medicine in the air he breathes and

a cure for all mental worries in the sunshine which spreads on him like a cooling salve. Winter or summer, spring or fall the results are the same.

Floating leaves riding gently on a rippled surface offer no interruption to the serene picture, any more than the darting birds which reflect their flight in the blue-green waters. Egrets and other wading birds do not compete, they simply tolerate man's intrusion to the lovely "earth's eye" which is to them their summer home.

Some choose to watch the sun as it yawns and stretches upon the eastern sky. They use fishing as an excuse to get a first-hand view of the world drenched in cleansing dew, and see the first golden streaks of morn herald another day. Others reap real joy in watching a fiery sunset slowly ebb into the purple shadows of night—silently and majestically. There are those, too, who find a healing tonic in the blue black night, when the stars seem to nudge the golden moon across the heavenly arch. Moonlight transforms a dusty world into a realm of cool, sparkling splendor.

Slow moving wrinkled masses of green algae stir the split circle lily pads in a restless dance where some anglers choose to cast. Here wax white blossoms, filled like a cup of yellow gold, offer perfect beauty amid a rug-like pattern on the water. The plunking of greenback frogs interrupts the sweet music of wind in distant trees, and tiny birds of the grasses dart close to the fisherman's gear.

Meadow grasses aglow with vari-colored blooms offer an inviting walk to those who tote buckets and rigging to shorelines, while the sweet scented pine covered woodland forest beacons to those who seek the shade. There's seclusion and peace amid water plants that dip their catkins into the surface, and quietude on mossy, fern-decked shores.

Winter winds hold no dread for those who bask in sheltered nooks along a frozen lake. The rumbling and cracking of the giant span give strength to those who sit and watch nature tussle with ice against the shore. Ever changing elements are but a pattern for man to follow as he too battles for existence in a troubled world. Yes—"go in fishin'" means more than rod and line—it's the perfect tonic for mankind.—*Betty Breeser*

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*Though we travel the world over to find the beautiful,
we must carry it with us or we find it not.* —*Emerson*



The Christmas Tree in America

Trimmed Christmas trees first appeared in the United States sometime during the American Revolution. It was during this conflict that homesick Hessian soldiers trimmed evergreen trees to soften their desire to be with their families during the Christmas season.

The idea of trimmed trees for holiday festivities spread rapidly through America. During the early days trimmings were simple and consisted primarily of strings of cranberries and popcorn and small clumps of cotton. Additional trimmings were in the form of paper ornaments.

Over the years the tradition of having a trimmed tree has become so widespread that now over two thirds of all American families follow this custom.

In following the evolution of the Christmas tree, the fir apparently is the most commonly used conifer. This is probably the result of the position of the twigs in relation to the main stems, which form crosses. Even today the fir tree is the species most commonly desired by the average American.

Conservation-minded Americans often resent the widespread cutting of conifers during the holidays. President Theodore Roosevelt, a staunch conservationist, would not allow a tree in the White House until his sons sneaked one in and set it up in their room. Gifford Pinchot, the President's advisor on conservation, explained that under conditions of supervised harvesting, removal of certain suitable trees from the forest helped to establish faster growth in the remaining trees.

Individuals who object to the cutting of Christmas trees should remember that foresters are interested not only in the perpetuation of the forests but also in the correct use of these lands. Many acres of idle and eroded land are now being utilized for Christmas tree production. The growing of these trees as a crop on waste areas can produce a sizable income for a farmer. In addition to the extra income, the tree plantations will help in holding and rebuilding the soil.

Many families utilize a living tree during the holidays. A small, well shaped tree can be planted in a tub and moved indoors during the holidays. If watered regularly, the tree can then be added as shrubbery in the yard. A tree of this type can be used for two or three years or until it becomes too large for convenient handling.



PENNSYLVANIA ANGLER

Dr. Maurice K. Goddard Honored

SOIL CONSERVATION SOCIETY OF AMERICA ELECTS MAURICE K. GODDARD HONORARY MEMBER

Dr. Maurice K. Goddard, Secretary of Pennsylvania Department of Forests and Waters and certainly well known to all Fish Commission personnel, was recently elected an honorary member of the Soil Conservation of America. *The Pennsylvania Angler* congratulates Dr. Goddard.

A forester by profession, Mr. Goddard received his B.S. degree at the University of Maine and an M.S. degree at the University of California. He was awarded an honorary Doctor of Science degree from Waynesburg College, Waynesburg, Pennsylvania.

Prior to his appointment as Secretary of the Department of Forests and Waters in 1955, he served as Director of the School of Forestry at Pennsylvania State University. He serves also as Chairman of the State Forestry Commission, the Water and Power Resources Board, the Geographic Board, and the Inter-Departmental Committee on Natural Resources.

Goddard is president of the Navigation Commission of the Delaware River and is a member of the Commission on Interstate Cooperation, the Sanitary Water Board and the Soil Conservation Commission. He serves as a member, or ex-officio member, of numerous other groups related to the natural resource field. His efforts in coordinating the work of many groups have materially advanced conservation work in Pennsylvania and other states.

He is a member of the Keystone Chapter of the SCSA and was keynote speaker at the Society's thirteenth annual meeting in Asheville, North Carolina.

GREATER THAN KINGS AND PARLIAMENTS

Here is a man who was born in an obscure village, the child of a peasant woman. He grew up in another obscure village. He worked in a carpenter shop until He was thirty, and then for three years He was an itinerant preacher. He never wrote a book. He never held an office. He never owned a home. He never had a family. He never went to college. He never put His foot inside a big city. He never traveled two hundred miles from the place where He was born. He never did one of the things that usually accompany greatness. He had no credentials but Himself. He had nothing to do with this world except the naked power of His divine manhood. While still a young man, the tide of popular opinion turned against Him. His friends ran away. One of them denied Him. He was turned over to His enemies. He went through the mockery of a trial. He was nailed upon a cross between two thieves. His executioners gambled for the only piece of property He had on earth while He was dying—and that was His coat. When He was dead He was taken down and laid in a borrowed grave through the pity of a friend.

Nineteen wide centuries have come and gone and today He is the centerpiece of the human race and the leader of . . . progress.

I am far within the mark when I say that all the armies that ever marched, and all the navies that ever were built, and all the parliaments that ever sat, and all the kings that ever reigned, put together, have not affected the life of man upon this earth as powerfully as has this One solitary life.



Pennsylvania Federation Sportsmen Elects Henderson As New President

Everett G. Henderson, of Exton, Chester County, was elected president of the Pennsylvania Federation of Sportsmen's Clubs during their semi-annual convention in Harrisburg on September 24. Henderson has been active for many years in Federation programs and has held various offices and committee posts, most recently serving as 1st vice-president. He succeeds Oscar A. Becker, of West Reading, who received a standing ovation for his excellent record during his term of office. Other officers elected at the business session included: Dr. Alvin R. Grove, State College, 1st vice-president; Henry Warner, Marion, 2nd vice-president; C. Ed Palmer, Lake City, Erie County, treasurer; Charles H. Nehf, Allentown, corresponding secretary; and C. Paul Blair, Sharon, recording secretary. Seth L. Myers, Sharon, was re-elected Pennsylvania delegate to the National Wildlife Federation, with James G. Sheffer, Montoursville, as alternate. The Federation presently consists of 55 county federations, 47 of which were represented at the convention.



BUILDER OF PYMATUNING DIES

Ralph J. Ferris, 76, known as "the father of the Pymatuning" passed along the trail on October 7 at Greenville Hospital. He was first stationed at Linesville in 1912 and became chief field engineer of the construction. In 1921 he was placed in charge of appraisals and land purchases at Pymatuning. He was retired since last April after 30 years service on the Pymatuning project.

DECEMBER—1960



A Flurry of Letters . . .

M. Gertrude Welsh
6344 Ross Street
Philadelphia, Penna.

Dear Madam:

As a subscriber to the *Pennsylvania Angler* would you be kind enough to write me a little letter or note giving me your honest opinion of the magazine and why you read it.

Very truly yours,
Ye Ed.

Editor
Pennsylvania Angler
Pennsylvania Fish Commission
Harrisburg, Pa.

Dear Editor:

I am not a madam yet. I am only ten years old. I like the magazine very much because I think it is very interesting. I read it because we have a cottage in the country along Tohickon Creek and there are many different kinds of fish. My father caught a bass and we didn't know whether it was a smallmouth or a largemouth bass.

Sincerely,
Gertrude A. Welsh

Miss Gertrude A. Welsh
6344 Ross Street
Philadelphia, Penna.

Dear Miss Welsh:

Pardon me for calling you madam for I know now you must be a very charming young lady. You have replied to my letter and I thank you for your courtesy. To help you identify the fish found in the creek near your cottage I am sending you a copy of "Pennsylvania Fishes" and from now on I expect you to tell your Daddy exactly what kind of fish he catches. Won't you write to me again sometime?

Cordially,
Ye Ed.



*And so at the end of the ways that wind,
One joy will be yours though a world goes down . . .
The joy to know that you left behind
A friendly door in a friendless town.*



*Now where Beauty was are the wind-withered gorses
Moaning like old men in the hill-wind's blast.
The flying sky is dark with running horses
And the sky is full of the past.*

—MASEFIELD

★ Conservation

★ Personnel

CONSERVATION TREE PLANTING COMPLETED AT RIDGWAY

More than 175 persons participated in the 1960 Cooperative Conservation Tree planting project recently completed on Bear Creek, Ridgway District of the Allegheny National Forest.

Groups participating were: Port Lake 4-H Club, Portland Mills; Boy Scout Troop 89, 1st Lutheran Church; Boy Scout Troop 90, Trinity Methodist Church; Boy Scout Troop 93 of American Legion; Gra-Y Outdoor Club; and Girl Scout Troops, 6, 12 and 16 all of Ridgway as part of their merit badge work.

Purpose of the project was to improve wildlife habitat by: 1. creating cover and shelter; 2. providing food; 3. cooling the water in streams; 4. stabilizing stream banks and soil; 5. provide an active conservation project for the participating groups. The U.S. Forest Service and the Pennsylvania Game Commission planned the project of planting 16,000 seedlings.



RIDGWAY GIRL SCOUTS get tree planting demonstrations from Assistant District Ranger, Richard Obyc, left, and Pennsylvania Fish Warden Bernard Ambrose at right. Al Duncrack, Head Forester on the project lent valuable assistance. Both rangers are from Ridgway District Allegheny National Forest.



SKIN DIVERS' catch, confiscated gear are garnered by (l-r) Fish Wardens Persun, Shabbick and Yoder. This type of skin diving just doesn't pay!

SKIN DIVERS VIOLATE FISH LAWS

Now it's the skin divers adding to all the other worries of the Pennsylvania Fish Wardens. Two Luzerne county "skin divers" were apprehended recently for spearing fish illegally by District Warden Steve Shabbick assisted by Bradford county Warden Willard Persun, Luzerne county Warden James Yoder, Lake Carey Chief of Police Claude Campbell and Deputy Game Protector Ben Pherreigo.

Acting on tips from enraged cottagers and sportsmen, Shabbick and his assistants kept the pair of divers under eye until they attempted to leave the lake with their catch. When apprehended the pair had thirteen fish in possession . . . walleyes up to 24 inches and bass up to 5 pounds.

In addition to losing their diving gear, spearguns and diving suits, the value about \$300, the pair paid fines totalling \$65.

★

BIRCHES

*When I see birches bend to left and right
Across the line of straighter darker trees,
I like to think some boy's been swinging them.
But swinging doesn't bend them down to stay.
Ice-storms do that. Often you must have seen them
Loaded with ice a sunny winter morning
After a rain. They click themselves
As the breeze rises, and turn many-colored
As the stir cracks and crazes their enamel.
Soon the sun's warmth makes them shed crystal shells
Shattering and avalanching on the snow-crust—
Such heaps of broken glass to sweep away
You'd think the inner dome of heaven had fallen.
They are bedragged to the withered bracken by the load,
And they seem not to break; though, once they are bowed
So low for long, they never right themselves:
You may see their trunks arching in the woods
Years afterwards, trailing their leaves on the ground
Like girls on hands and knees that throw their hair
Before them over their heads to dry in the sun.*

—ROBERT FROST

★

Like a great poet, Nature produces the greatest results with the simplest means. These are simply sun, flowers, water etc. You can, if you wish, say the sun is merely so many miles in diameter, the trees good for fuel, the flowers are classified by stamens, and the water is wet.

FISH, PHILOSOPHY AND THE BIBLE

Izaak Walton called fishing the "Contemplative Man's Recreation." This is just another way of saying that fish and philosophy are something like ham and eggs. They go well together. As the rod is an indispensable part of every angler's equipment, so the Bible is an indispensable part of nearly every American's heritage and being.

The Theory of Special Creation

Genesis 1:20-23 And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven.

And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good.

And God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas, and let fowl multiply in the earth.

And the evening and the morning were the fifth day.

Habakkuk 12, 14 Art thou not from everlasting, O LORD my God, mine Holy One? . . .

And makest men as the fishers of the sea . . .

The Categories—Of Good and of Evil

Leviticus 11:9-12 These shall ye eat of all that are in the waters: whatsoever hath fins and scales in the waters, in the seas, and in the rivers, them shall ye eat.

And all that have not fins and scales in the seas, and in the rivers, of all that move in the waters, and of any living thing which is in the waters, they shall be an abomination unto you:

They shall be even an abomination unto you; ye shall not eat of their flesh, but ye shall have their carcasses in abomination.

Whatsoever hath no fins nor scales in the waters, that shall be an abomination unto you.

The Teleological Argument—God's Purpose for His Chosen People

Jeremiah 16:15-16 But, The LORD liveth, that brought up the children of Israel from the land of the north, and from all the lands whither he had driven them: and I will bring them again into their land that I gave unto their fathers.

Behold, I will send for many fishers, saith the LORD, and they shall fish them; and after will I send for many hunters, and they shall hunt them from every mountain, and from every hill, and out of the holes of the rocks.

Axiology—A Weighing of Values

Matthew 7:9-11 Or what man is there of you, whom if his son ask bread, will he give him a stone?

Or if he ask a fish, will he give him a serpent?

If ye then, being evil, know how to give good gifts unto your children, how much more shall your Father which is in heaven give good things to them that ask him?—*Excerpts by Dr. Barbara Shockley*



J. ALLEN BARRETT RETIRES

On December 30, 1960, J. Allen Barrett will have rounded out twenty years and three months of dedicated service to the Pennsylvania Fish Commission, and on which date he will go into voluntary retirement.

Coming to the Commission on October 1, 1940, Barrett was assigned to the position of Educational Lecturer, in addition to which duties, he also edited the *Pennsylvania Angler* over many years.

During the period October, 1940 to April, 1957, Barrett traveled a distance of 205,393 miles throughout Pennsylvania making some 1,593 speeches designed to inform the public and acquaint them with the operation and policies of the Fish Commission to as many audiences and comprising a total attendance of some 703,290 people.

On May 31, 1945 Barrett was one of the original eleven people who gathered in the Hotel Pittsburgher and initiated a general plan for a teachers' workshop or laboratory designed to prepare school teachers to teach conservation in Pennsylvania schools. Later, on June 26, 1945, the plan was adopted by the School of Agriculture at the Pennsylvania State College (now University) where the workshop and laboratory has since been conducted during the summer months of each year with residence credits that have been recognized by the leading colleges of the state.

He is one of the five originators of the Pennsylvania Outdoor Writers Association, of which he is a charter member.

In November, 1947, he was made Director of Public Relations and later became the first Chief of the Conservation Education—Public Relations Division of the Commission, which position he held until 1956. On January 18, 1960, he was restored to the chief of this division, but immediately informed the Commission of his desire to retire at the close of the year.

Author, editor, lecturer, Barrett is rated among the leading conservationists and public speakers in Pennsylvania. His experience in fishing and hunting extends over a period of some 50 years, and his timely messages on the outdoors of Pennsylvania and the United States will long be remembered.

Born in Lykens, Dauphin County, Pennsylvania, he is married to the former Mae M. Matter and they are the parents of two sons and two daughters.

The Pennsylvania Fish Commission and its entire personnel proudly salute "Al" Barrett and extend to him best wishes for health and happiness in the years ahead.

WATER UNDER THE BRIDGE

Up until my wedding day I had held to the belief that a fisherman was a fagged business man badly in need of rest and relaxation, who had taken to the woods and streams to get his thinking gear back into shape. But the Man I Married, soon changed all of that! I was to learn that no other thrill on earth can compare to that of rising long before the bravest rooster, and easing through the mist and magic of morning toward the designing brook, where worldly and scornful trout played a darn good game of Hide-and-seek with your dreams of a worthy catch to crow about later on.

I didn't take too readily to the perpetual eye squint, the aching back, and the frayed frustration of always going home without the bacon, *or* the trout. But it was, and still is, a source of wonderment to me, a mere woman, at the way men go all out for this fooling around with fish. A husband dozing over his coffee cup an hour earlier, will galvanize into instant action at the accidental mention of *FISH!* And he will dance back to boyhood, while engaged in collecting night crawlers in the moonlight, for his next day's catch.

I have followed him faithfully and often fretfully, up hill and down-on-our luck, into cool little dells, and have tread those dear old covered bridges, with nostalgia nibbling at my consciousness, into wild and wonderful places where the trout have given us the slip.

"Why don't you take a book along and read?" a thoughtful friend suggests. Nice of her to say that, but not on your life! Because, my mate, with a certain inflection of speech, can imply that I should love it as much as he does. I must watch without a twinge of jealousy or chagrin, his glorious response to all of that load of lure under water. And I am cautioned not to talk either. I might disturb the equilibrium of the staring sirens hiding behind cool stones!

What matter if I may have at last collared an inspiration I've been chasing around for weeks. And without benefit of bait. If the brilliant idea capriciously decides to come closer at that moment, I'm really sunk. Because my memory simply cannot be banked on. So I mention the best part hoping his better intelligence will keep it on ice for me until we get home. I might as well have throttled it in the first place. He is caught himself, in a kind of mesmeric haze. I look closer at the pond, thinking that a school of mermaids might have slipped in. I must keep beaming at the brook, come hell or high water.

Poets may not be born but true fishermen really are. And my husband is one of them. Of that I'm reasonably sure. He doesn't go in for fancy gear. He merely dons his oldest coat, his battered hat and carefully trundles his oldest pipe along.

In the dead of winter, in the dreariest part of cold and storm, I enjoy drawing this picture up from my subconscious . . . my husband, with his eyes glued to the brook, the fish at least nibbling encouragingly, his pipe going full blast. Team that up with the meadow lark singing to High Heaven, and the fuchsia dawn in the distance, or the dusk right around the bend in the river, then you have yourself a sight. I have left myself clean out of the picture, lost in the background, bone tired, as hungry as a cocker spaniel, and not a single bite.

As the dark settles down damp on our shoulders, and the fish get ready for bed, and we start folding up our rods, here are moments to grow strong in. The world, with its war obsessions, seems very far removed. We may not have any fish this trip, but we are taking home something . . . something we can sleep on, and remember always even when it has become water under the bridge.

—Mary Ellen Jackson



Water, Snakes and Horsehairs

It was the common belief in our township that a hair from a horse's tail, given the proper environment, would develop into a living, writhing horsehair worm or snake. Along about August, during dog days, our watering trough for the live stock would always have a number of these undulating horse hair-sized creatures.

"Is it true," I asked my father, "that a horse hair snake comes into being from a horse hair falling into water?"

"So I've always heard," he answered. "If you don't believe me," he quickly added defensively, "ask anybody."

I did . . . even the preacher. They all agreed.

I reported my findings to father. "Now," I said, "if I put this horse hair that I just pulled from dobbin's tail into water and keep it there, I should get a snake?"

"You should," said father.

But I didn't. Weeks passed and the bottle plus water plus horse hair remained just that. I questioned father.

"Well, maybe the water isn't right."

So I got many bottles, each one was properly labelled: Pond Water, or Lake Water, Cistern Water, Well Water, Manure Water, Spring Water, Quarry Water, Harbor Water, etc. I borrowed hairs from the tails or manes of our ten horses . . . white, black, roan, or dappled. And, of course, nothing happened.

About the same time, a colony of crickets I was experimenting with had a member that seemed disinterested in fighting, food, love, producing music, everything. I experimented with him and discovered, much to my surprise, that there were at least two feet of horsehair snake coiled up in the innards of my erstwhile musician.

So father financed a trip to the Carnegie Library in Sandusky where some research disclosed that horse hair snakes grew from little snakes. Their parents were male and female horse hair snakes and for millions of years these round worms had been parasitizing crickets and their kin.

But horse hairs and horse hair snakes just have no connection, no relation . . . no how!—Carsten Ahrens



Common Sense and Water Courtesy

ALTHOUGH boating courtesy and the general rules and regulations governing the operation of your craft are not strictly within the realm of seamanship, observance of these rules is the mark of a good skipper.

It is assumed that if you have taken your boat out onto the water that you have familiarized yourself with the nautical "rules of the road" and will use common sense in the operation of your boat. You are legally bound to know and observe the nautical regulations.

Here are a few simple, fundamental rules of the road that apply almost everywhere:

Powered boats must yield the right-of-way to sailboats, fishing boats and rowboats in almost all cases. Steer clear of small boats without power and give fishermen a wide berth as a matter of courtesy.

When two craft approach each other head on, both should bear to the right so as to pass each other on the left side. In rivers where there are channels with strong currents, the vessel going downstream has the right-of-way over one proceeding upstream against the current. A general rule is to keep to the right.

When two boats converge at an angle, the one to the right has the right-of-way. Any boat being overtaken has the right-of-way and the overtaking boat is burdened with the responsibility of staying clear.

Remember to always use common sense afloat. Don't insist on your right-of-way if it might mean trouble. If the other craft takes no action, it's up to you to avoid a collision even if you have the right-of-way.

Hot-rodding in crowded waters is the mark of a poor skipper. Stay clear of swimming areas, throttle down in crowded areas and in harbors and consider the other fellow who might be disturbed by your wake. Do not cut across the course, of sailboats in a race, and don't spoil a fisherman's fun by cutting close enough to him that you rock his boat or foul his fishing line.

Use common sense in loading your boat. The number of seats available does not always measure the capacity of your boat and overloading is asking for trouble. By the same token, don't overpower your boat with a motor of larger horsepower than that recommended for the size boat you are operating. It is always dangerous to stand up in a boat unless it is stable enough to permit standing.

Keep a sharp lookout for danger signals at all times. When on the waterways you are not on a sharply defined roadway and danger may approach from any direction.

It is well to remember that trolling is prohibited in some states and that it is unlawful to shoot from a boat in some states.

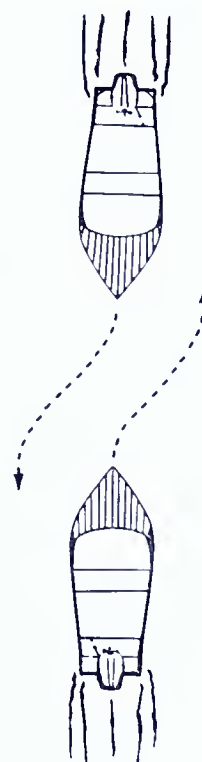
You should never anchor in a channel, nor so close to another boat that you might foul his line. Don't tie up to navigation markers except in the case of emergency.

Almost all nautical regulations can be observed naturally if you will simply remember to always be considerate of others.

**THIS BOAT
HAS THE
RIGHT OF WAY**



WHEN TWO boats approach at an angle the one on the right has the right-of-way.



WHEN TWO boats meet head on, both bear to the right so as to pass each other on the left side.





